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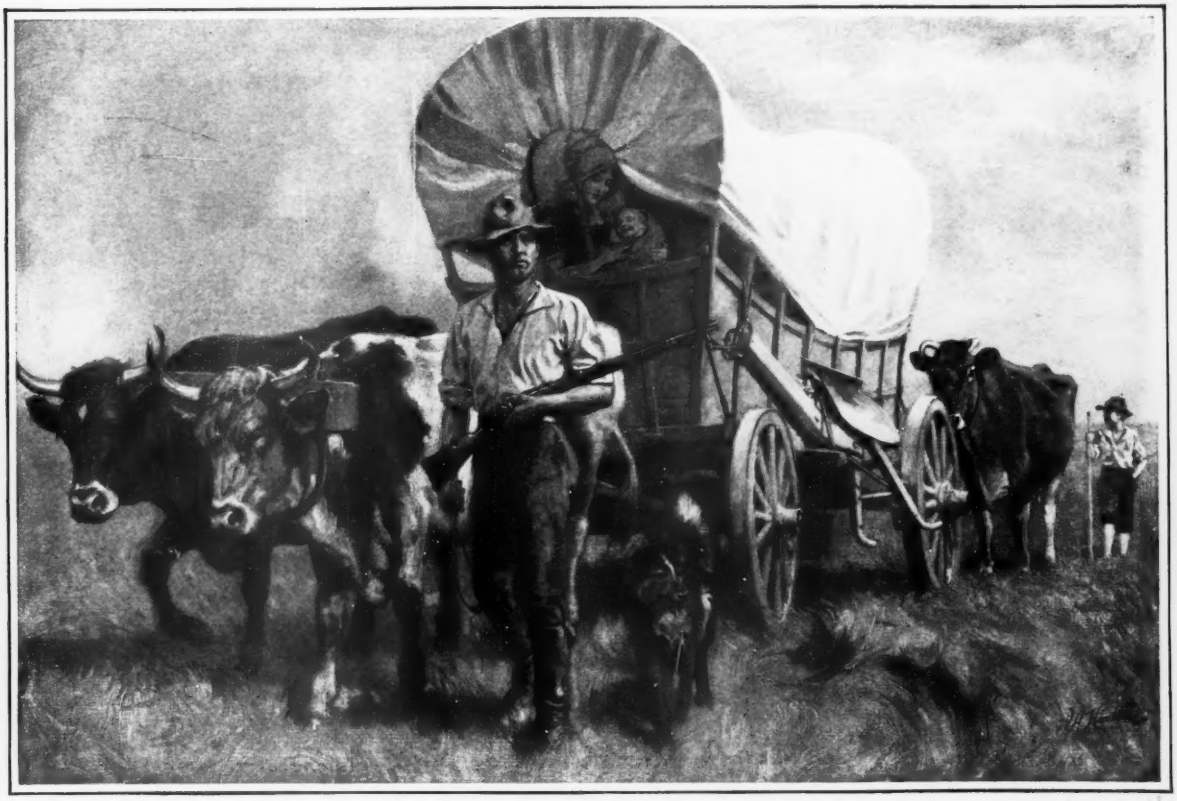
American Vocational Association

NEWS BULLETIN

VOLUME V NUMBER III

Plan Your Work
Work Your Plan

PUBLISHED IN INDIANAPOLIS, INDIANA AUGUST, 1930



The Land Looker

ACROSS prairies and through timberland, where lights in new homes twinkled at dusk, trudged the land-looker of pioneer days.

Back of him, in temporary quarters at a frontier settlement, was his family; ahead of him lay his opportunity to get a home.

No soldier under Caesar, no "doughboy" under Pershing, ever marched with a heavier burden.

A long rifle, an axe, an auger, a window sash with panes in place and a huge knapsack, made of heavy bedticking and crammed with clothing and provisions—those were among the accoutrements of the land-looker as he pressed on into the wilderness.

He sought good plow land. Finding it, he located his quarter-section, built his pre-emption shanty, and lived in it the three days necessary to hold his claim for a year. Then, back more than a hundred miles to the frontier village and his family.

Soon his emigrant wagon was on the westward trail—an ox-drawn wagon, making six miles a day. Boys trudged behind the wagon, driving milch cows and pigs. Mother sat in the front seat lulling the baby to sleep. Father strode, with long whip in hand, and long rifle in convenient grasp, beside the oxen. Stored back in the wagon, were the household goods—home-made furniture, home-made bedding, home-made clothing, spinning wheels, loom and crockery. In a coop, at the rear, were a half-dozen chickens. And swung up tightly to one side of the wagon was that symbol of civilization, chief reliance of the pioneer farmer—a John Deere plow.

Days and days of slow travel, and then—

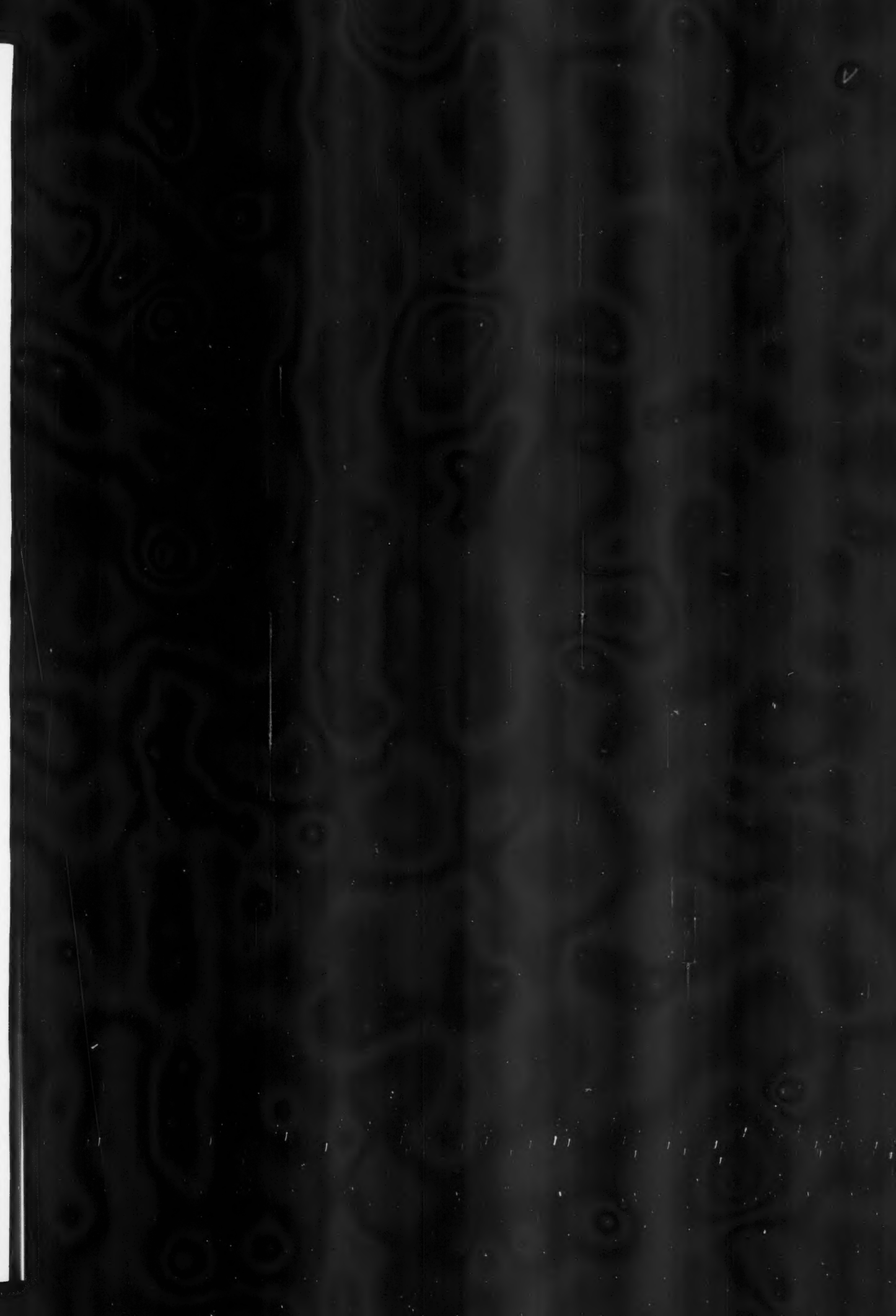
—a new home-light beamed the message of achievement across the prairie at dusk; another family was established, ready with the John Deere plow to win a prosperous farm from the wilderness.

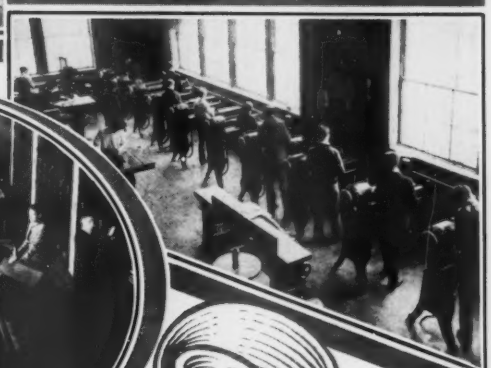
Thus, long ago, in the hearts of pioneers to whom a good plow meant everything, the seeds of good will for John Deere were planted—good will that extends today to John Deere equipment for practically every farming operation.

JOHN DEERE FARM EQUIPMENT

Leader in Quality for nearly a Century

JOHN DEERE
MOLINE, ILL.
THE TRADE-MARK OF QUALITY
MADE FAMOUS BY GOOD IMPLEMENTS





Accomplishment

To design, construct and finish furniture that welcomes a comparison with factory-made furniture is the industrious woodworking student's ambition. Its accomplishment is laudable for both student and instructor. Only too often ability and skill are faced with an insurmountable barrier—expensive toy equipment. But provide "Oliver" woodworking machines and the possibilities for fine work become unlimited. The same equipment is used in making the world's finest furniture.

Woodworking students of the Wyandotte High School, Wyandotte, Michigan, under the guidance of Mr. O. G. Henley, produced the furniture shown above. The pieces possess real merit, are true accomplishments.

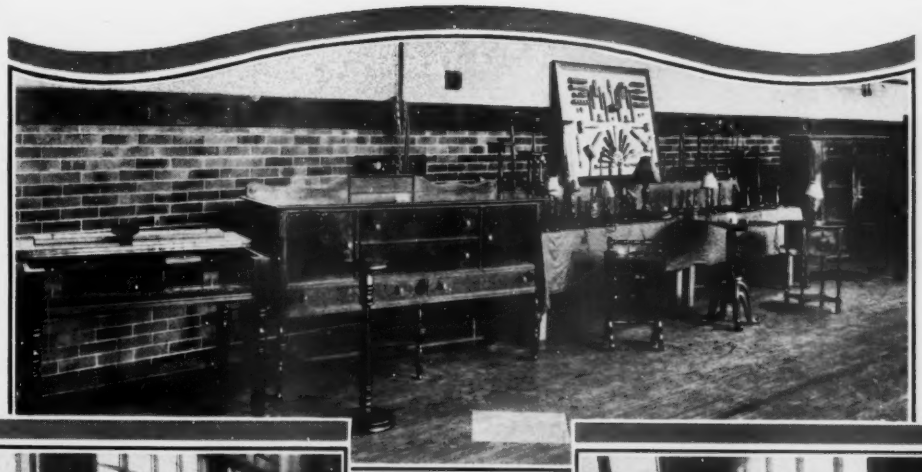
"Oliver" woodworking machines are used at Wyandotte. Their simple design, sturdy construction, safe operation make them ideal for school shops. To invest in such equipment is to practice true economy.

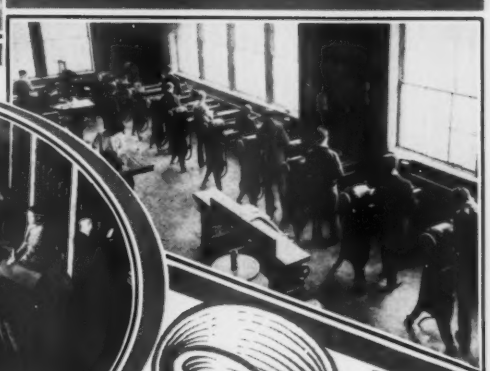
Write for catalog.

Oliver Machinery Company

Grand Rapids, Michigan, U.S.A.

HIGH GRADE MACHINERY





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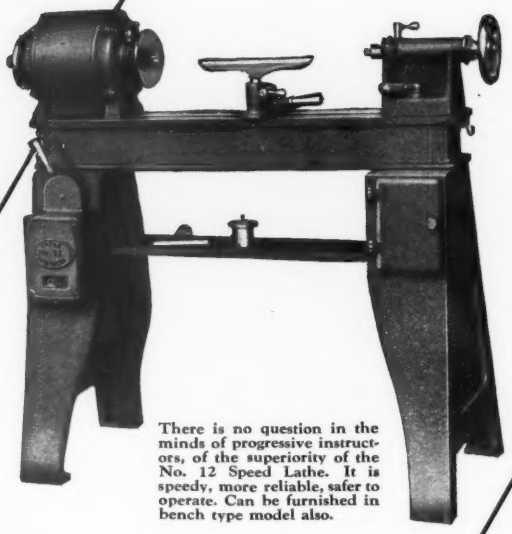
Grand Rapids, Michigan, U.S.A.

HIGH GRADE MACHINERY

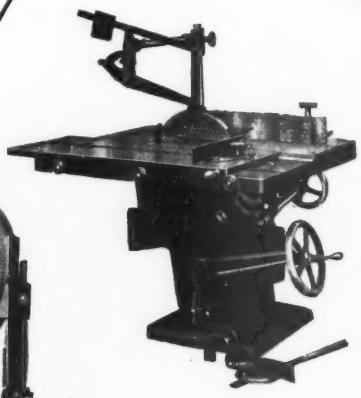
Schools
INVEST WISELY
In Yates-American Machines!

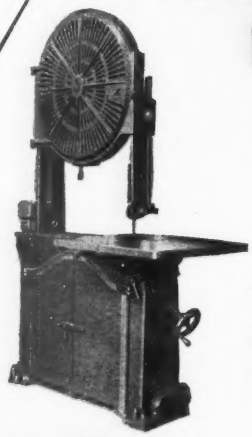


There is no question in the minds of progressive instructors, of the superiority of the No. 12 Speed Lathe. It is speedy, more reliable, safer to operate. Can be furnished in bench type model also.

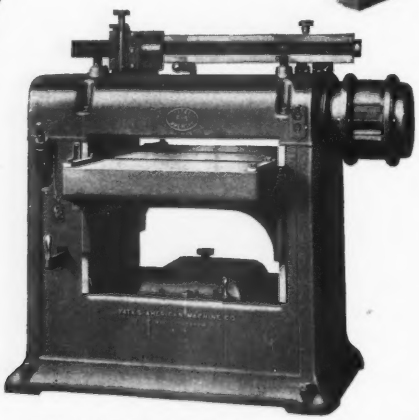
A Quality School Woodworking Machine for Every Purpose.

Ask for Circulars





Above is the Yates-American No. 1 Variety Saw Bench, the highest class machine of its type. At the left is the Y-36 Scroll Band Saw, acknowledged by users as the speediest and most durable band saw made.



This is the B-8 Single Surfacer, a 24 x 8 and 30 x 8" machine, popular in all schools desiring the best available in this type machine. There is another, the Yates-American B-4, light duty surfacer built especially for schools.

The superiority of Yates-American machines for school use lies in the fact that these same machines are the accepted standard of the entire woodworking industry. They are tried and proven for safety, durability, ease and economy of operation. Therefore, they pay direct dividends in greater student interest in shop work, in more and better work done, safer working conditions and longest enduring service. They give the student the obvious advantages of a practical course in woodworking machine operation. Circulars and full specifications are gladly furnished on request on any type machine in which you are interested.

VOCATIONAL DIVISION

YATES-AMERICAN MACHINE COMPANY

Woodworking Machines and Heads and Knives for All Woodworking Purposes

Rochester, N. Y. BELOIT, WIS. Hamilton, Canada

Exclusive Representatives for

Baxter D. Whitney & Son, Inc. Jenkins Machine Company
L. G. McKnight & Son Company

American Vocational Association
NEWS BULLETIN

VOL. V AUGUST, 1930 NO. III

PUBLISHED QUARTERLY BY THE AMERICAN VOCATIONAL ASSOCIATION

THE COMMITTEE ON PUBLICATIONS

R. W. GREGORY, CHAIRMAN
ROOM 225 STATE HOUSE

ADDRESS COMMUNICATIONS PERTAINING TO ADVERTISING to STUDIO PRESS, *Publishers* 340 Century Bldg. Indianapolis

Z. M. SMITH, SECRETARY
INDIANAPOLIS, INDIANA

ANNUAL SUBSCRIPTION PRICE TO MEMBERS OF THE ASSOCIATION, TWENTY-FIVE CENTS

ENTERED AS SECOND-CLASS MATTER SEPT. 8, 1916, AT THE POST OFFICE AT INDIANAPOLIS, IND., UNDER ACT OF MARCH 3, 1879

THE PRESIDENT'S MESSAGE

PAUL W. CHAPMAN, *President of the American Vocational Association, Athens, Georgia*

In the promotion of vocational education there are many services which can be rendered only through the activities of an "unofficial", nation-wide organization. To carry on such activities in the most efficient manner possible is the major purpose of the American Vocational Association.

After six month's experience, it is apparent to your president that the A. V. A. should function much more effectively if at least one officer of the association could devote more time to his duties. I expect to discuss before the assembly of the House of Delegates at the Milwaukee convention in December the way in which this and other administrative changes may be effected.

Any changes looking to the increased service which the A. V. A. may render in connection with the further development of the program of vocational education are contingent upon our ability to increase the annual budget under which we are operating. The additional funds, it would appear, must come mainly from two sources: First, life memberships, which for the most part must be secured from persons now engaged in vocational education; and second, the donations to our endowment fund which may be made by philanthropists or foundations.

The number of life memberships which have been secured since our New Orleans convention have been very gratifying. Many more memberships will be secured before the close of our meeting in Milwaukee next December. It is apparent, however, that at the present rate of progress several years will have elapsed before the necessary endowment fund of $100,000 is raised in this way.

In discussing the matter with Dr. R. L. Cooley, our immediate past president, he suggested that in addition to the two plans previously approved for paying life memberships that there should be 1,000 schools in America that would each pledge one life membership with the understanding that interest at the rate of 5 per cent would be paid on the unpaid principal from the time the pledge was made until the obligation was finally discharged. In this way the Association would secure the same income from the "pledge" that would be derived from the sum of $100 placed in the endowment fund. This would make it possible for the Association to derive the full benefit of the capital from the time the pledge was made, yet would permit the school making the pledge to pay the principal as convenient.

This plan has not been placed before the directors of the A. V. A., but it is well worth considering. Would your school be willing to subscribe for one membership on this basis? Or perhaps you have a better plan to propose? If so, it will be received with great interest.

With the large number of influential business leaders who at this time are advocating a more extensive program of vocational education as one effective means of increasing national prosperity, it would seem feasible to expect that there are individuals, corporations, or foundations which would be willing to make a substantial contribution to the agency that is so largely responsible for leadership in the field of vocational education. So promising are the possibilities along this line that your president will appoint a Committee on Endowment, which shall not only interest themselves in the safeguarding of the funds now on hand but seek to add to them.

A recent newspaper story reported that one university in the nation had received more than eleven million dollars in gifts during the past year. This is fine, but those of us who are struggling with the complex problems of secondary education which deal with the masses of the people, sometimes wonder if our multi-millionaires are cognizant of the struggle that is being made in behalf of the boys and girls and men and women who are still in "No Man's Land" so far as educational opportunities are concerned. Surely it is a worth while effort—our attempt to prepare these more-or-less under privileged people to better meet the responsibilities of life? Surely not all those worthy of assistance occupy the upper rungs of the educational ladder?

And such a small sum of money, invested in certain places, may return such a handsome dividend. It takes at least a million dollars to make an impressive gift to our largest universities, but one-tenth of that sum will insure permanent activity in behalf of vocational education through the A. V. A. Somewhere in the country there must be men and women who can visualize the possibilities that such a gift may have in increasing human happiness and national prosperity.

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THE NEWS BULLETIN

Published by The American Vocational Association

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Death of Mr. Kelley

Mr. Denman Kelley, former state supervisor of industrial education in Indiana, died at New Bethel, Indiana, June 17, 1930.

Mr. Kelley was born at Dugger, Indiana, in 1888. He has taught in Indiana most of his life and held a Master's degree from Indiana University. During the war he was an instructor at the Great Lakes Naval Training Station and afterwards for three years was Vocational Teacher Trainer at the Indiana State Teachers College. He left this position in 1925 to become State Supervisor of Industrial Education and resigned in 1928 to become the first principal of the Technical High School at Dallas, Texas. He was taken ill before the completion of his first year of work, but carried on through the year. He returned to Indiana in an attempt to regain his health, but has been ill since that time.

Mr. Kelley made several studies which contributed to the vocational field in this state and was well liked by the people with whom he worked.

Legislative News

Members of the American Vocational Association and other readers of the bulletin will be interested in knowing something of what the Legislative Committee has been doing.

On May 7th and 8th we had a very satisfactory hearing before the House Committee on Education on the Capper-Reed Vocational Education Bill 10821. Many persons prominent in education and others just as prominent in the industrial and commercial world were present to testify in behalf of the bill. More were present in fact than could be heard in the time we had for the hearing, notwithstanding the fact that we had an hour and a half for the hearing on May 7th and from ten o'clock until six o'clock on May 8th.

Copies of the printed report of this hearing can be obtained within a few weeks by writing to the Chairman of the Legislative Committee. These reports will contain the names and testimony of all the persons who appeared at the hearing, as well as a number of documentary statements which were filed in support of the bill.

No particular opposition to the bill developed at the hearing but so many things influence the enactment of legislation of this kind that no one can predict with any degree of accuracy what the outcome will be. We are optimistic because we believe that optimism wins.

C. M. Miller, *Chairman.*
Legislative Committee.

The American Vocational Association

George Brigden
Toronto, Canada

It having been deemed wise by the Vocational Committee of the Board of Education of the City of Toronto that a representative should attend the Annual Meeting of the American Vocational Association the thought was sent forward for consideration of the full board, who, heartily concurring in the idea, very kindly appointed me as their delegate.

In compliance with the request that I should give an idea of the functions of the American Vocational Association it will be necessary not only to briefly outline its history, but also explain the meaning of its name or title.

The name is all embracing. The adjective American is used in its broadest sense, and its activities cover all avenues of Vocational work carried on throughout the North American continent.

In 1906 the first Association dealing with vocational work on a national basis was formed and was known as the National Society for the Promotion of Industrial Education. In the following ten years much spade work was done—work which resulted in the passing of what is known as the Smith-Hughes Act whereby the development of a nation wide programme for vocational training of the masses became a possibility and a fact.

The successful operation of this Act incited the formation of another organization having similar ideals and for nine years each Association endeavoured to work out their own salvation.

In 1925, recognizing that in unity lies strength, the two Societies merged and formed what is now known as the American Vocational Association since which date, Canada has through one or more representatives, kept in touch with its work and gathered information of a most profitable character.

On December 6th, 1929 the membership of the American Vocational Association stood at 7,320. Every State in the Union save Rhode Island and Washington is represented on its roster. Canada is credited with one membership. She should have many more. The Western Middle States of Wisconsin, Illinois and Ohio have the largest membership probably because in them industrial expansion has been most rapid and the demand for properly trained and educated Youths most insistent; besides which, a better understanding exists between the manufacturer and the educationalist resulting in a greater and stronger co-operation as to the working out of the part time classes—particularly is that true in the cities of Cincinnati and Milwaukee, in which city the next Convention is to be held.

The fourth annual Convention of this organization was held in the City of New Orleans on December 4th—7th, 1929. By actual count while the eleven section meetings were in session simultaneously the attendance was between 2,750 and 3,000—a striking proof of the sincerety and interest

that the delegates had in their work. All the affiliated States but three were represented, viz., Vermont, Nevada and Montana.

At the banquet given on Friday evening more than 700 covers were laid. Dr. E. W. Sikes, President of Clemson College, South Carolina, was the principal speaker. He gave an illuminating address on "Vocational Education and The New South" in which he stressed particularly the high quality of United States products—a quality brought about largely through the intensive training received by the present generation at the different Vocational Schools.

The Southern States, or The New South as it is now called, have during the past ten years, made most marked progress in all matters educational.

The fact that Alabama sent 227 delegates, Georgia 251, Louisiana 151, Mississippi 139, South Carolina 178 and Oklahoma 115, is proof positive of their desire to be closely in touch with all that would tend towards increasing their ability to impart knowledge that would place their section of the United States in a successful competitive position. They have awoke to the fact that permanent prosperity can be gained only through giving their Youth equal opportunities to cultivate their hands and minds as those enjoyed by their Northern neighbors.

A survey of the programme evidences how thoroughly practically every branch of Vocational work was covered. True, the industrial side was in the predominance, but several enquiries elicited the fact that at many of the Technical Schools the rudiments of commercial work were taught besides which a fair proportion of time was being given to academic work. This would indicate that we, in Toronto, are working on approved lines.

Though it was impossible to attend all the meetings, nevertheless, those which I did have the privilege of taking part in, and from what I gathered from those who attended others, it would appear that all were better than well attended.

There were three general sessions—the most useful of which was that of Wednesday evening when the subject "Education and the Industrial Worker" as viewed from the standpoint of organized labor, was ably presented by Major Geo. L. Berry, President, Pressmen's Home, Memphis, Tenn. His main plea was for the closest possible co-operation between those who teach and those who learn as well as between the employers engaged in the vocations for which Youth was being trained. In the broadest and most wholesome manner he gave the assurance that organized labor would not be found wanting in furthering to the utmost all efforts that offered the worker a better opportunity to enjoy life, in its higher and more enobling spheres.

It is pleasing to note here, that organized labor as constituted in Toronto has played its part well; giving both practical and financial assistance, and through its representatives on the Vocational Committee, voicing a co-operation than which no better could be desired.

It possibly would not be out of place to point out at this particular juncture that the success of any Technical School depends largely on the co-operative interest of both the employer and the teacher. The closer and better the relationship, the greater and more satisfactory are the results. Permit me to urge the value of this point, much depends upon it. Study carefully, closely, patiently, the industrial possibilities surrounding the school in which you teach and endeavor to so instruct your scholars that when they enter the field of production they may give service worthy of the highest commendation.

Through the courtesy and kindness of Doctor H. Giles Martin, the opportunity was given of a personal inspection of New Orleans' Technical School known as the Isaac Delgado Central Trade School; an endowed school, carried on without cost to the City, splendidly built, exceedingly well lighted, standing on spacious grounds, exceptionally well equipped with the best that money can buy, and wonderfully clean. Cleanliness is considered an essential for the health, safety and proper training of the students, each one of whom must have fresh clean aprons or over-alls each Monday morning—Tuition is free in every department.

Carpentry and building is taught through the erection of actual buildings on the ground.

The training in the Machine Shop is so designed that the student, on graduating, has a thorough knowledge of the fundamentals of the machinist's trade, together with such special training as he may elect.

Electrical instruction is imparted through practical shop work, laboratory experimental work, and lectures dealing with the theory of electricity. Installation of both light and power wiring is done in full size skeleton houses.

The wood working or cabinet making shop at this particular time was specializing in the production of cedar chests, and was amply supplied with high grade machinery.

The Printing Department has four of the recognized standard presses in operation together with a full Monotype and Linotype outfit in their Composing Room.

Art, that is what is known as Commercial and Industrial Art, is evidently much sought after if the number of scholars in attendance is to be taken as a criterion. Excellent work was being done in all of its branches from the production of a show card to the complete decoration of a home.

As in most trade schools, a portion of each day is given to academic work and lectures, care being taken that such work and lectures have a direct bearing on the trade work being followed by the students.

New Orleans has every reason to be proud of that school.

One deduction that may be safely taken from that which has been recited is that part time work is becoming more recognized as an important factor in the educational process, and that we in Ontario must, if we desire to keep abreast with the latest movements and developments, utilize every possible means to acquaint ourselves with the progress being made in other sections of the World.

The next annual meeting of the American Vocational Association will be held in the City of Milwaukee, from December 10th to 13th, 1930. The city, which has tackled so successfully, the problem of part time work. They anticipate that Canada will send delegates from each of her several Provinces with instructions to present an urgent invitation to hold the 1931 meeting in Toronto. We want them, need them, just as they want and need us. There is nothing more conducive to broadness of thought and of higher educational value than the mingling, conversing and discussing with those who are working along similar lines, those problems which are ever changing and which demand of us our highest intellectual ability.

I would urge you that as many members as possible of the Ontario Educational Association take steps to join this continent wide organization. All that is necessary is that the Ontario Educational Association decide to affiliate, your secretary to so inform the secretary of the American Vocational Association, forwarding him a copy of your constitution, a roster of the officers for the present year, and a cheque for the amount of the annual dues, which are to members of an affiliated society, $1.00 per year. Each member will receive a copy of the quarterly news bulletin of the Association, which contains in each issue articles giving expression to the best and latest thoughts dealing with educational problems.

The American Vocational Association is a worth while organization, growing rapidly, and making a lasting impression on the educational world.

**Paper read before the Vocational Section of the April 1930 meeting of the Ontario Educational Association.*

The Hotels listed here are all members of the Milwaukee Association of Commerce

We recommend them for your consideration.

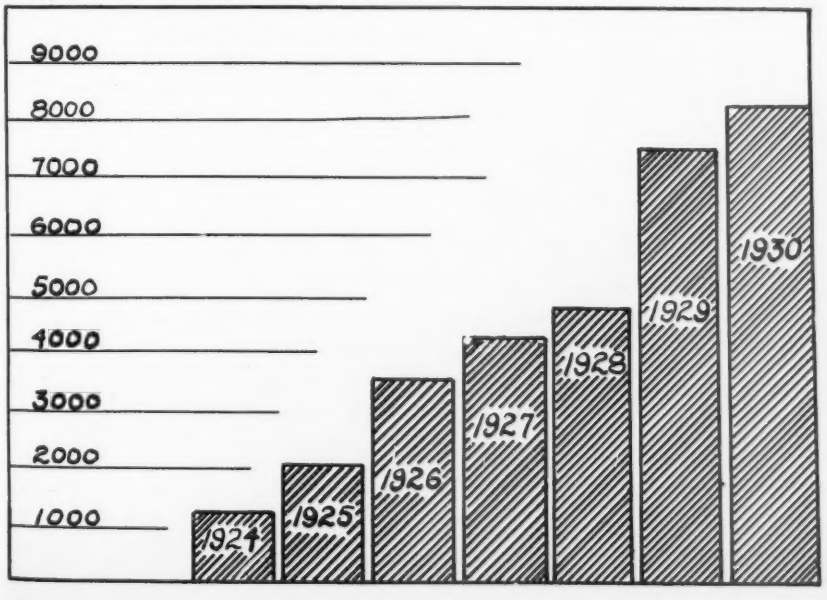
		Without Bath	With Bath	Suites
*Abbot Crest—140 rooms and apartments	Single	$1.75	$2.25 to $ 4.00	
1220 Wisconsin Avenue	Double	3.00	3.50 to 6.00	$8.00 and Up
Adelin—48 rooms	Single	1.50 to 2.50		
275 Tenth Street	Double	2.00 to 3.00		
*Ambassador—226 rooms	Single		3.00 to 6.00	
2300 Wisconsin Avenue	Double		5.00 to 12.00	6.00 and Up
Antlers—450 rooms	Single	1.00 to 1.75	2.00	
130 Second Street	Double	1.50 to 3.00	3.00 to 4.00	
*Astor—1,000 rooms and apartments	Single		3.50 to 5.00	
266 East Juneau Avenue	Double		5.00 to 8.00	10.00 to 25.00
Belmont—116 rooms	Single	1.75 to 2.00	2.75 to 3.00	
Fourth and Wells Streets	Double	2.75 to 3.00	3.75 to 4.00	6.00 to 10.00
Blatz—75 rooms	Single	1.50 to 2.00	2.00 to 3.00	
East Water and E. Wells Streets	Double	2.00 to 3.00	3.00 to 4.50	3.50 to 6.00
Brown—50 rooms	Single	.75 to 1.00		
205 Fourth Street	Double	1.50 to 2.00		
*Carlton—100 rooms and apartments	Single	1.50 to 2.50	2.50 to 3.50	
614 Milwaukee Street	Double	2.50 to 3.50	3.50 to 5.00	5.00 to 7.00
*Colonial—87 rooms and apartments	Single		2.50 to 3.50	
494 Cass Street	Double		3.00 to 4.00	3.50 to 7.00
Delaware—60 rooms	Single	1.25 to 2.00	2.50	
111 Fourth Street	Double	2.00	3.50	
Edison—100 rooms	Single	.75 to 1.00		
550 Edison Street	Double	1.50 to 2.00		
Gilpatrick—115 rooms	Single	1.50 to 1.75	2.00 to 3.00	
223-225 Third Street	Double	2.50 to 3.00	3.50 to 5.00	5.00 to 6.00
Globe—75 rooms	Single	1.50 to 3.00	2.50 to 3.00	
E. Wisconsin Avenue and Cass Street	Double	3.00 to 4.50	3.50 to 5.00	
Juneau—105 rooms	Single	1.00 to 1.50	1.75 to 3.00	
225-231 E. Wisconsin Avenue	Double	2.00 to 3.00	3.50 to 5.00	
*LaSalle—187 rooms and apartments	Single		3.00 to 6.00	
177 11th Street	Double		5.00 to 8.50	8.50 to 15.00
Martin—200 rooms	Single	1.50 to 2.50	2.50 to 3.00	
201 East Wisconsin Avenue	Double	2.50 to 3.25	3.50 to 6.00	4.00 and Up
Medford—310 rooms	Single	1.75 to 2.25	2.50 to 3.00	
Third and Michigan Streets	Double	2.75 to 3.00	3.50 to 5.50	
Metropole—71 rooms	Single	1.00 to 1.75	2.00 to 2.50	
404-16 Wells Street	Double	2.00 to 2.50	3.00 to 4.00	4.00 to 6.00
Miller—120 rooms	Single	1.75 to 2.00	2.50 to 3.50	
175 Third Street	Double	3.00 to 4.00	3.50 to 3.50	
New Randolph—132 rooms	Single	2.00 to 3.00	2.50 to 5.00	
Fourth Street and Wisconsin Avenue	Double	3.00 to 4.00	4.00 to 8.00	5.00 to 10.00
New Pfister—200 rooms	Single	2.50 and Up	3.50 and Up	
Jefferson Street and E. Wisconsin Ave.	Double	4.00 and Up	5.00 and Up	15.00 and Up
Plankinton—300 rooms	Single		3.00 to 7.00	
West Water and Michigan Streets	Double		5.00 to 9.00	10.00 and Up
*Plaza—300 rooms and apartments	Single		2.50 to 4.00	
551 Cass Street	Double		4.00 to 6.00	
Republican—200 rooms	Single	1.50 and Up	2.50 and Up	
Third and Cedar Streets	Double	3.00 and Up	4.00 and Up	6.00 and Up
Royal—150 rooms	Single	1.75 & 2.00	2.50 & 3.00	
Fifth and Michigan Streets	Double	3.00 & 3.50	4.00 & 5.00	4.00 and Up
Schroeder—850 rooms	Single		3.00 to 7.00	
Fifth Street and Wisconsin Avenue	Double		5.00 to 10.00	10.00 and Up
Schuster's—47 rooms	Single	1.00 to 1.25		
164 E Wisconsin Avenue	Double	1.50 to 2.00		
*Shorecrest—250 rooms and apartments	Single		3.00 to 4.00	
345 Summut Avenue	Double		5.00 to 7.00	8.00 to 20.00
Wisconsin—460 rooms	Single	1.50 to 2.00	2.50 to 5.00	
182 Third Street	Double	3.00 to 4.00	5.00 to 10.00	12.00 to 20.00

*These are apartment hotels with accommodations for transient guests.

AMERICAN VOCATIONAL ASSOCIATION MEMBERSHIP

	1924	1925	1926	1927	1928	1929	1930
Alabama	100	35	128	121	158	172	231
Arizona	....	1	1	....	10	20	22
Arkansas	....	4	51	62	69	52	51
California	....	11	410	939	995	140	189
Colorado	....	2	2	1	1	60	47
Connecticut	....	9	52	....	79	75	177
Delaware	71	13	60	65	66	97	115
Florida	....	....	44	45	50	61	42
Georgia	....	5	4	37	51	222	253
Hawaii	....	1	....	....	1	....	1
Idaho	....	....	1	20	20	23	27
Illinois	....	36	233	507	507	1015	909
Indiana	195	337	254	222	265	304	407
Iowa	....	4	146	153	153	165	169
Kansas	11	8	93	117	118	97	154
Kentucky	....	5	205	5	69	2	103
Louisiana	....	3	5	....	4	3	160
Maine	48	231	58	82	82	76	145
Maryland	....	6	75	15	17	81	87
Massachusetts	....	49	12	....	4	14	7
Michigan	132	137	229	202	202	192	155
Minnesota	....	13	27	61	61	56	65
Mississippi	....	1	38	39	39	60	159
Missouri	1	21	21	131	188	349	341
Montana	....	....	....	....	2	1	1
Nebraska	....	3	8	....	5	6	27
Nevada	....	2	1	30	30	26	31
New Hampshire	....	19	2	1	1	1	1
New Jersey	....	47	50	43	45	187	91
New Mexico	....	1	....	38	38	22	28
New York	1	249	24	2	46	880	840
North Carolina	....	2	44	30	30	95	65
North Dakota	....	1	2	38	48	33	39
Ohio	176	211	221	184	193	453	591
Oklahoma	....	5	28	3	23	61	150
Oregon	....	....	....	47	53	55	79
Pennsylvania	330	297	382	358	396	899	479
Rhode Island	....	7	1	....	....	....	....
South Carolina	8	7	160	9	9	128	179
South Dakota	....	1	....	....	....	1	5
Tennessee	....	8	....	23	91	106	97
Texas	148	137	131	222	230	211	390
Utah	....	2	....	....	13	37	29
Vermont	....	1	2	....	....	5	3
Virginia	....	54	81	65	65	238	255
Washington	....	1	2	....	6	1	24
West Virginia	....	6	36	24	24	30	63
Wisconsin	1	33	279	291	299	726	801
Wyoming	....	2	1	....	4	7	32
District of Columbia	....	17	15	1	11	16	15
Canada	....	8	5	2	3	6	2
Mexico	....	....	....	....	1	....	....
Scotland	....	....	....	....	....	1	....
TOTALS	1222	2053	3624	4325	4875	7568	8333

Total number of Life Members on May 1, 1930 11



Instructional Material for Continuation Education

By RUTH L. TURNER
Placement Secretary,
Berkeley, California, Public Schools

Exhaustive studies have been made on the reasons for students' leaving full-time school and entering continuation school, but comparatively little research has been done on the development of the continuation school with regard to the instructional material used in its classroom work. The continuation school is in only its beginning stage. The continuation-school teacher must be a pioneer in this field of preparing instructional material, for it is seldom possible to use a textbook for an entire course as practically all textbooks have been written for use in full-time schools.

The average continuation school has gone through four main stages of development; the first, when by law a school was established and we made our beginnings hopefully, but hardly grasping what it was all about; second, the period of discouragement which followed when we realized what a tremendous task we had before us, and wondered if after all we could ever see our way clear to the accomplishment of anything; the third stage, when we emerged from the fog and began to plan a constructive program. In this stage, although much has been accomplished in a constructive way, in the classroom, we have very little in published form to show for it. The final stage is the period of real organization, when we have planned and organized a constructive program and have the results on paper. Some teachers belong in this last stage, others are in the third stage, and some, unfortunately, are still in the period of utter bewilderment.

The material collected for an exhibit of instructional material was obtained through two main sources. The Continuation Education Association of Northern California appointed a research committee to make a survey of the state and to collect as many samples of instructional materials as were available. These were used for study by some of the continuation schools throughout the state, and were also used as an exhibit at the 1929 summer session at the University of California, in Berkeley. Later, a more extensive survey of the work being done in the country as a whole was made.

I. MATERIAL FOR TEACHERS

The material resulting from these two surveys falls into two main groups: that prepared for the use of the classroom teacher, and that prepared for the use of the student, himself. The material prepared for the use of the teacher is grouped under three main

Continued on Page 12

MILWAUKEE A. V. A. CONVENTION

R. R. Fare Reduced

One and One-half Fare

THE railroad Trunk Lines of the United States have granted a fare of one and one-half on the certificate plan. This rate will apply only in case 150 or more of those in attendance present certificates secured at the time of the purchase of tickets at the starting point.

Do not fail to secure from the agent at your starting point the required certificate. Ask him about it today. Do not wait until the day you start to Milwaukee.

Turn in your ticket at the registration desk immediately upon your arrival at Milwaukee. You can not purchase ticket at reduced rate for return trip, if your certificate is not properly validated at the Convention.

Do not fail to secure certificate, because unless 150 certificates or more are validated no one can secure reduced fare for return trip.

F. M. Smith, Secy

AMERICAN VOCATIONAL ASSOCIATION

AMERICAN VOCATIONAL ASSOCIATION EFFECTIVELY SUPPORTS FEDERAL LEGISLATION FOR VOCATIONAL EDUCATION

Mr. Paul W. Chapman,
President, American Vocational Association,
Athens, Georgia.
Dear Mr. Chapman:

Now that the second deficiency appropriaton bill has passed, there will be available to the States for the current fiscal year and the two succeeding fiscal years aid from the Federal Government for the promotion of vocational rehabilitation of disabled persons. As you are aware, this has come about as a result of legislation promoted during the regular session of Congress just closed. Naturally we are grateful to the many friends of the movement throughout the country who helped promote the successful passage of the legislation.

I am taking this opportunity to express the appreciation of our rehabilitation staff for the help given by the American Vocational Association, of which you are the President. The assistance given by your organization covered a substantial financial contribution as well as aid in bringing to the attention of the representatives in Congress the need for continuing the Federal participation in the work. I would be glad if you would express to your associates whenever the occasion presents itself the appreciation which I have expressed.

In closing, I want to say that I am personally grateful for all that you yourself have done as well as the Association which you represent and of which I am a member.

Sincerely yours,
John A. Kratz,
Chief, Vocational Rehabilitation.

Home Economics Bulletin Now Available

An A. V. A. Publication

A Better Homemaking Program for Youth and Adults! A new bulletin is now available for distribution.

Last spring the state supervisors of home economics education received a letter asking how many copies of the bulletin giving the Proceedings of the Home Economics Education Section of the A. V. A. meeting at New Orleans they could use. On the basis of their requests, the bulletin has been printed by the American Vocational Association, at a cost slightly greater than was first estimated.

As the new school year begins, state supervisors will no doubt find this bulletin of special help to them, their teachers and superintendents, in helping to plan the details of the work on home projects, adult education and curriculum content which includes the newer phases of homemaking. The two articles by Dr. Edwin Lee of the University of California and by Mr. W. H. Lancelot of Iowa State College, as well as many others, are full of inspiration and thought provoking material.

No doubt state supervisors would like to order several copies immediately to have for use in their fall conferences and visits to schools. Order "A Better Homemaking Program for Youth and Adults" from Z. M. Smith, Room 225, State House, Indianapolis, Indiana. The price is 25 cents for single copy and 20 cents each for lots of twenty-five or more.

Please send me.....copies of the Home Economics Bulletin. Enclosed you will find $..... to cover cost of same.

Name.....
Street Address.....
City.....State.....

Preparation and Use of Instructional Material

Preparation of instructional material may be approached with three objectives in mind. First, and end in itself, which in my opinion has no place in the vocational education field. Second, as a means of improving teaching. Third, and most important, the improving of teachers in service. Those of us who are responsible for the improvement of teachers in service have found that the preparation and organization of instructional material is one of the most valuable means which we can employ. It should be a continuous job, revising the material each year as a result of the experience of the year preceding. To get satisfactory results it is necessary that those preparing the material become thoroughly acquainted with that which has already been prepared in the special field considered. This material must then be considered from the standpoint of its adaptability to the vocational and social needs of the particular group with which it is to be used. The material must be organized in terms of the learner rather than in terms of the subject itself. Consideration must be given to the relative value of the topics selected and to the intensity in which they are treated.

In preparing material for use in night school we are preparing it for use with a group in a particular field of activity, who have a definite objective and purpose when they come to night school. The course which is finally prepared for this group must be one which will meet their needs as they see them. Personally, if it is at all possible, I use material which has already been prepared. This may not be just what I wish, it may be far from the ideal but it is something concrete, something which can be added to or taken from according to the needs of the particular group and the ability of the teachers.

In a few cases instructional material is so limited or obsolete that it is necessary to make a careful analysis and prepare teaching material from data thus secured. So far as I know there is no more satisfactory way to secure this information than through a type of conference similar to a foreman's conference. As a matter of fact, if a foreman's conference is carried on with the idea that organized classes will follow a little time could well be spent on the question of what should be taught the learner. The information thus secured makes it possible for someone to work out the detailed material and organize it on sound educational principles. It must then be put in such a form that it may be used in the class. This may be in the form of the hectograph, mimeograph, and printed material, etc.

Sometimes it is necessary to prepare instructional material when little thought need be given to the improvement of the teacher. We are often confronted with the problem of the isolated teacher who needs instructional material already prepared. Usually this teacher is one who is holding a responsible position, who in a way is giving his services because of his interest in the men and the subject rather than because of the income. He

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AMERICAN VOCATIONAL ASSOCIATION CONVENTION

Milwaukee, Wisconsin **December 10-13, 1930**

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New Life Members

ADELAIDE STEELE BAYLOR

First Woman Life Member

Dr. Adelaide Steele Baylor, Chief of the Home Economics Education service of the Federal Board for Vocational Education was recently made the first woman life member of the American Vocational Association. In recognition of her splendid service and remarkable ability as a leader in the profession of vocational homemaking,

Continued on Page 12

E. K. JENKINS

Mr. E. K. Jenkins, Director of Vocational Education for the Wallpaper Association of America, has been presented with a life membership in the American Vocational Association by Honorable E. D. Belknap in behalf of the Wallpaper Association in recognition of his splendid and meritorious service to Vocational Education.

Mr. Jenkins has long been identified with the American Vocational Association and its parent organizations, having been one of the early sponsors of these associations. He was a Vice-President representing Industrial Education in the National Society for

Continued on Page 12

ADAH HESS

Miss Adah H. Hess, state supervisor of home economics education for Illinois, has taken out a life membership in the American Vocational Association.

Miss Hess is a native of Indiana. She was born in South Bend and received her elementary, high school, and first teacher training in the public schools of her native city. She has kept abreast of educational developments as

Continued on Page 12

NEW LIFE MEMBERSHIP PLAN

The executive committee of the A. V. A. has approved for the current year the payment of one hundred dollars on the instalment plan for a life membership in the A. V. A. The following form has been mailed to every member of the association. Either the card which you received or the coupon below may be used in sending your acceptance of this plan to Z. M. Smith, Room 225, State House, Indianapolis, Indiana.

I....., of.....
(P. O. AND STATE)

promise to pay the sum of one hundred dollars for a life membership in the American Vocational Association, Inc., payments to be made in instalments as follows:

Twenty dollars on or before April 20, 1930
Ten dollars on or before May 10, 1930
Ten dollars on or before June 10, 1930
Ten dollars on or before July 10, 1930
Ten dollars on or before Aug. 10, 1930
Ten dollars on or before Sept. 10, 1930
Ten dollars on or before Oct. 10, 1930
Ten dollars on or before Nov. 10, 1930
Ten dollars on or before Dec. 10, 1930

with interest at the rate of six per cent per annum on any unpaid balance from December 10, 1930 until paid.

"Most of us who are engaged in work in the field of vocational education will never have large sums of money with which to endow educational institutions. Few of us, when our bequests are announced, will have established trust funds to perpetuate agencies that we think are especially worth while. These philanthropies must, for the most part, be left to those engaged in more remunerative occupations.

Yet to a greater extent than most multi-millionaires, we have convictions on the subject of education. Out of our experiences on the educational frontier, we have developed a philosophy and initiated a program. It has been an alluring adventure. A great privilege! And what snug satisfaction comes from a knowledge of the progress made. The work must go on. It will. But regardless of how extensive and complete a program of vocational education may be developed in years to come, there will never be another group engaged in this phase of education so intensely interested in perpetuating its ideals, aims, and objectives, as those now identified with the American Vocational Association.

There are many members of the A. V. A. who want to make this permanent program of activity possible. Through concerted effort it will not be difficult. Collectively, we can endow our association."—PAUL W. CHAPMAN, *President, A. V. A.*

Mr. Chapman was the first to become a life member under this plan.

New Life Members—Adelaide Steele Baylor

the regional agents for vocational homemaking education in the United States, the state supervisor of Hawaii, and forty-five of the states, made possible the life membership as a token of their appreciation.

Miss Baylor's professional experience in the education field began as a teacher in the elementary schools in Wabash County in Indiana. Following this experience she was made principal and later superintendent of schools in Wabash City schools. In 1911 she was appointed clerk and general assistant and was the first woman to receive a major appointment in the office of the State Superintendent of Public Instruction. She held this office until October 1, 1915 when she was made the first State Supervisor of vocational home economics in Indiana. While a school instructor, administrator and State supervisor of home economics she came to know school problems from many angles. She assisted with the survey made for vocational education purposes following the enactment of the State law for vocational education.

After leaving Indiana she became Federal Agent for home economics education (1918-1922). She assisted with the promotion of vocational home economics in twenty-four states. In 1922 she was made chief of the division of home economics education. During this time the vocational home economics classes increased from 30,799 to 154,890.

Miss Baylor began her collegiate training at the University of Michigan. She has received an A. M. degree from Columbia and a Ph. B. degree from the University of Chicago. In 1927 the honorary degree of Doctor of Science in Home Economics Education was conferred upon her by Stout Institute. Menomonie, Wisconsin. She is an honorary member of Omricron Nu and is a member of the League of American Pen women. She has been president of the National Council of Administrative Women in Education, for twelve years secretary of the National Council of Education, and has held office in several other professional organizations.

The following statements are from State Supervisors of home economics education:

"I am glad that you have taken the initiative in this, for I feel sure that this is due Miss Baylor, and I feel sure that she will greatly appreciate this honor and the interest shown by the home economics people of the various states, in making this possible."—Lillian C. Hoffman, South Carolina.

"I think it will be fine for a home economics woman and especially for Miss Baylor to be the first woman life member of the A. V. A."—Esther Rogers, Mississippi.

New Life Members—E. K. Jenkins

Vocational Education and Chairman of the committee representing the National Society in perfecting the present organization of the American Vocational Association.

Mr. Jenkins is a graduate of the University of New Hampshire with a Bachelor of Science degree in Mechanic Arts and was formerly State Director of Vocational Education in Maine. He has been in his present position for the last six years.

Instructional Material for Continuation Education

Continued from Page 7

headings: source materials, courses of study, and lesson plans.

Source Materials

Surveys.—Among the source materials are surveys. Two examples are occupational surveys made in Seattle, Washington—"Opportunities for Girls in the Garment-making Industry in Seattle", and "Tea Room Waitress Work in Seattle". City surveys for vocational education furnish a great deal of material of this kind. Such material is very valuable to teachers, for without a knowledge of the opportunities in the local field in any trade instruction is very ineffective. It is useless to train people for occupations which our local community cannot absorb, and it is also useless to train an over supply of people.

Analysis.—Job analysis and occupational analysis is the second type of source material. The Federal Board for Vocational Education has made many of these analysis which give a listing of all the duties of a worker in a given trade, and what he must be taught to acquire skill in these duties. Such material is, of course, basic for a vocational training course.

Textbooks.—Reference books are another source, invaluable to a continuation school. Although it is seldom possible to use a text as a whole, it is often desirable to assign references in various texts. The related science teachers are beginning to use this source more successfully. One related science teacher said that we have become "book-shy" and that this source has been much neglected; he collects, or has his pupils collect, as many books as are available on the project at hand.

Trade publications.—The late trade magazines and trade pamphlets are another valuable source of information. A teacher of mechanical drawing reported that he studies his boys to discover in what particular field of mechanical work their interest lies, and then gives them a design in their particular line from a trade journal to

Continued on Page 14

New Life Members—Adah H. Hess

is shown by her training record, which includes courses in the University of Michigan, Teachers' College of Columbia University, the University of Rochester, the University of Chicago, and the Illinois State Normal University. In 1914, she received from Teachers' College the special certificate "Supervisor of Household Arts", and in 1915 the degree of B. S. and the diploma "Supervisor of Home Economics" from this same college. She did graduate work in Teachers' College during the summers of 1919, 1920 and 1926. She has had a year of graduate work in the University of Chicago as a Fellow in Home Economics Education. A semester each was spent at the Oregon Agricultural College and at the University of Idaho to secure the viewpoint of western institutions before beginning her research studies in home economics education.

Her teaching and administrative experience cover a range of important responsibilities. From 1898 to 1911, she taught home economics, drawing, manual training and music in the public schools of South Bend. The year 1911-1912 was devoted to organizing Part Teacher Associations. She taught sewing and dressmaking in Christ Church School, New York City, during the year 1913-1914. The following year she was director of domestic art education in Mechanics Institute, Rochester, New York. From 1915-1917 she was professor of textiles and clothing in the State College for Women in Denton, Texas, and during the next two years she was not only professor of these subjects, but was also director of the textile and clothing department. In 1919-1920 she spent a semester in the Oregon Agricultural College as teacher-trainer in home economics and a semester in the University of Idaho as assistant professor of home economics. The year 1920-1921 was spent in the University of Chicago as a Fellow in Home Economics Education. From 1921 to the present, Miss Hess has served as state supervisor of home economics education in Illinois.

Miss Hess has supplemented her teaching and administrative experience and her college training with well-chosen activities in the fields of household management and commercial trades. For a period of two years she managed the housekeeping for a family of five and one maid. She has worked in a tailoring establishment, a knitting and woolen mill, a shirt factory and a high grade dressmaking establishment.

BECOME A
LIFE MEMBER

Group of pupils from the Commercial Department of the Lindblom High School, Chicago, give a demonstration of how a model office should be conducted.

The Chicago Educational Exposition

A. G. BAUERSFELD
Director of Technical Work in High Schools

The Health and Educational Exposition held at the Coliseum during the week from May 17 to May 25, was probably the greatest exhibit and demonstration of the work of the public schools ever staged in Chicago. Scores of senior and junior high schools, as well as hundreds of elementary schools, participated in this event. It is estimated that 1,000 children took part each day in the living demonstrations which were held twice daily, at 2 P. M., and 7 P. M. in the various booths throughout the Coliseum and in the large assembly room.

It is estimated that 100,000 persons visited this exposition. Most of these visitors could not fail to go away without having a more complete understanding of what modern education means in the way of offering many opportunities to the children of the Chicago public schools.

Among the interesting exhibits was the popular Journalism booth, where a Chicago high school associated press was manned by a staff from a different high school each day. The work of this group was then sent to the Tilden Technical High School Print Shop booth where a typical high school print shop was in complete operation. Here a daily newspaper was published, whose page was about 10"x12", and which gave a "write-up" of what was going on in the general assembly work of the north hall, and also the special features in the seventy-two educational booths, which were changing from day to day. The equipment for this booth included a linotype machine, a 14x22 platen press, composition table, paper cutter, proof presses, and three hand composition cabinets.

The boys taking first year Woodworking at the Calumet High School erected a summer house, together with a complete line of garden furniture. In order to give these constructions a proper setting, a typical garden scene of a Spanish hacienda was painted on a large canvas teen feet high by thirty five feet long. The summer cottage was terraced, and a lawn was developed which was surrounded by a colorful flower garden border.

The Aviation classes of Lane Technical High School showed various processes needed in maintaining the efficiency of an airplane. Boys welded struts and braces by means of an oxyacetylene welding outfit. They demonstrated how patches were made in wings, and made various mechanical adjustments on the aeroplane motors, all of the different kinds of work that might be included under the general heading of "Aeronautical Ground Work."

The four-year Electrical Construction department of the Crane Technical High School demonstrated a variety of electrical devices they had built in their shops, such as a telechrome clock, and the new popular Solar Light which produces the so-called "Florida tan" color for people who never go South in the Winter. A great number of other interesting projects were also displayed, such as electric motors, electric drills, soldering irons, radio sets, and toasters. Some of the daily lessons that the

The boys from the print shop of the Tilden Technical High School, Chicago, ran a daily paper in this exhibit booth, which told of the daily activities of the Health and Education Exposition.

Messenger boys from the Hoyne Continuation School, Chicago, demonstrated how telegrams were sent and received in a modern Western Union office.

boys are required to accomplish in their regular course of study, and which call for the use of electrical instruments for measuring A. C. and D. C. currents, were included in this exhibition.

The development of art work in the elementary, junior and senior high schools was also illustrated. Demonstrations of every type of art work were given, such as the making of posters, linoleum block printing, stencil cutting, batique work, clay modeling, sketching from life, applied design, and many other forms of art studies.

Selective groups of high school pupils performed laboratory experiments in General Science, Biology, Physics and Chemistry in the different Science booths each day.

A large commercial exhibit included a typewriting class room using the dictaphone method for receiving dictation, a typical modern office completely equipped with all labor saving devices such as bookkeeping machines, comptometers, multigraphs, and various filing devices for classifying the different work of a modern office.

There was also a most interesting demonstration of Salesmanship by means of living models. The visitor was given inside information as to what constituted the making of a good sale on the part of a clerk, either in the selling of a hat, a dress, or some household article found in a State Street department store.

In the north hall, definite assembly programs were given each day, including band concerts, R. O. T. C. drills, dances, vocal selections, orchestral renderings, dramatic sketches, style shows, and health lectures.

The results obtained in this Educational Exposition should be reflected back to the community at large, and make the citizens of Chicago feel that they have reason to be proud of their schools, notwithstanding the storms and strife which come to a modern metropolitan city.

Instructional Material for Continuation Education

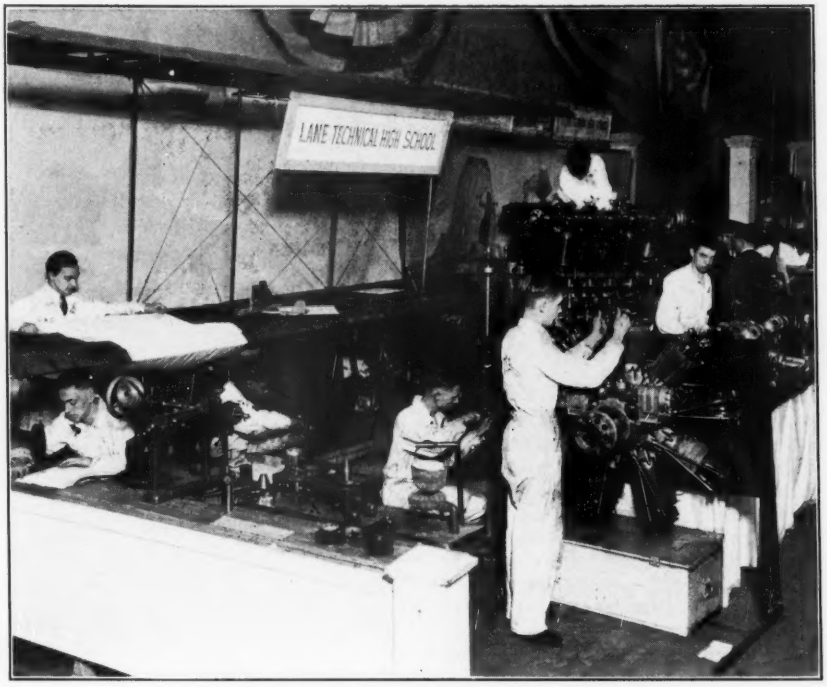
Continued from Page 12

copy. He uses the design, which he selects, as a unit course and from it he works out unit lessons giving each pupil a certain definite goal for each period. As a result of his use of this material he has found a decided increase in attendance since he started this system of work.

Case studies.—Case studies are the fifth type of source material. Without a thorough knowledge of the individual pupil, his needs and his abilities, the teacher can accomplish little. Different forms of case histories are used in various schools. Some use the folder system where all material referring to the student is kept in a file and the case history itself forms the file. Many schools use, as do we in Berkeley, a continuation school personnel record. This contains a school, home, health, and employment history of the student. It shows his hobbies and his objectives and tells how long he will be with us before he reaches eighteen. This record can be kept on a 5½ x 8½ card, and in a file where the teacher may have access to it at any time.

Courses of Study

Courses of study form the second large group of materials prepared for the use of the classroom teacher. A few schools have published courses of study, but most schools have them still in manuscript or mimeographed form, as they are in a formative state.



A class in Aeronautics from the Lane Technical High School, Chicago, gave a daily demonstration of kind of work required by mechanics in the Aviation Hangars.

In the country-wide survey courses of study came not only from regular continuation schools, but also from part-time apprentice schools and plant-training schools. For example, there is a course for apprentices in the marble industry, prepared by the Georgia Marble Company, at Tate, Georgia; and textile fabrics for boys and girls in the continuation schools prepared by the Richmond Hosiery Mill, Rossville, Georgia.

Lesson Plans

The third type of materials for teachers is the lesson plan which is the next step beyond the course of study. The exhibit shows a few very interesting lesson plans for teachers.

II Material for Pupils

When the course study has been made out, the teachers' lesson plans are completed, then we come to the final piece of work—materials for pupils. This is our next big division of instructional material. Such material falls into three main headings, reference material, projects and lesson sheets.

Reference Material

Among the reference materials are occupational studies. These give the student an excellent opportunity to see occupations as a whole and to secure accurate data concerning them. May Rogers Lane has written a bibliography of occupational studies which gives a list of the published material of this kind. Textbooks are, of course, reference material for pupils as well as for teachers; as are, also, trade journals.

Projects

Records of projects carried out by the pupils indicate a second type of material. Two of the most interesting examples come from Richmond, California. Civic information of various kinds was utilized in two surveys made by pupils. One was a study of the U. S. Postal System, the other a "City of Richmond" project. These were made in a small school, and every pupil in the school contributed some information.

There are various other miscellaneous fields of information which should not be neglected. Red Cross and safety posters, maps and pamphlets are of use in the various types of lessons.

Individual Lesson Sheets

The third type of material is the actual lesson sheets. Some subjects can be taught best by the use of such lesson material, and in the continuation school this type of material is particularly needed. Perhaps no type of lesson is more difficult to devise, but a few excellent examples have been secured. Correspondence schools and their instructional material give us valuable suggestions.

Job instruction sheets.—Lesson sheets which are prepared for students' use fall into four main groups: (1) job instruction; (2) related technical instruction; (3) social science and social understanding; and (4) a general education group. Along the line of job instruction sheets, the East Side Continuation School in New York City has done some very interesting work as regards both organization and mechanical form. San Francisco Continuation School has worked out a series of lesson sheets for the course in office practice. The latter series of units are worked out from a placement standpoint, and they are giving their pupils practical experience in the office of the continuation school. This latter course is divided into seven main units: messenger service, mail handling, indexing and filing, general clerical, typing, duplicating, and stenographic work. The fundamental skills and the related instruction in each unit are taught. Each person must pass a required degree of efficiency in one unit before he enters another unit.

Related instruction. — Probably the major part of instructional material which is prepared for use in continuation schools comes under the heading of related technical instruction, due to the time element entering into the attendance of the pupil. Much of the instruction given *must* be related rather than the development of skills. Very interesting material in related mathematics was furnished us by the Delgado Trade School here in New Orleans. The University of California, Division of Vocational Education, has worked out some "Faulty Summary Blanks", giving related technical instruction for the use of vocational teachers of automechanics.

Social science.—Perhaps one of the most discussed groups of instructional material is that of social science and social understanding. A study was made by Brewer of Harvard of five thousand cases of boys and girls between the ages of 16 and 21. It was found that 62 per cent of them lost their positions due, not to a lack of skills, but to a lack of social understanding. Such lesson plans have been prepared along the line of social science. Among these are the two listed, those from Pontiac, Michigan and from Detroit, Michigan. Many teachers of social science feel that it is rather difficult to conduct a class from lesson plans. Others have found it effective to use the problem method of teaching. Still others feel that a course in social understanding, as such, should not be given, that it should be taught only incidentally in connection with other courses.

General group.—A number of lesson sheets which have been prepared throughout the country do not fall directly into any of these first three groups. They fall under a fourth classification. Under this we have listed the Multiple Lessons which have been prepared in Hamtranck, Michigan. These combine a certain amount of related technical, also some work in social science and combine a number of subjects within the one group of lesson plans.

Preparation of Lesson Material

In conclusion we may well ask who should prepare instruction sheets, revise, and edit them? The individual teacher knows her pupil best and for that reason must be responsible for the greatest part of the work done on lesson sheets. She needs help from everyone who can give it, but she probably does the most effective work when she has been instrumental in preparing of revising that material herself. The continuation-school teacher must have the pioneer spirit, or she does not belong in continuation education. There is interesting work ahead. The continuation-school teacher has a wonderful opportunity to render a great service and to make a name for herself in the field of instructional material.

Employment Problems of Juniors

By Mary Stewart
Assistant Director of Indian Education, Department of the Interior, Washington

Employment problems of juniors are primarily problems of education. For the years of childhood and adolescence, the years between six and twenty-one or two, are years of learning and training, of growth and development, of habit-forming and character building.

The young worker's need may be so dire that he will think of the job only in terms of wages; or the lure of what seems to him good money and independence — a man's adventure — may blind him to the kind of work he is doing or the possible value of school. Nevertheless, whatever a young person does with his time and his energies contributes to his development or retards it, and that is his real problem, whether he is aware of it or not. Employment at a job instead of attendance at school or in addition to regular class instruction, in its very nature forms a part of the process of learning commonly called education. How much a part and how valuable a part depends on the nature of the work and of the young person doing it, along with the conditions surrounding both.

Productive Work for Adolescence Has Limited Training Value

The sort of productive work (i. e., work in which the emphasis is on production rather than on training and

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NEWS NOTES

GEORGIA

More than 30,000 persons were enrolled in the vocational classes in Georgia last year that were aided by the Georgia State Board for Vocational Education.

T. E. Browne, state director of vocational education, Raleigh, North Carolina, was the "vocational speaker" on the program of the Georgia Education Association this year at the convention in Macon.

M. D. Mobley, assistant state supervisor of agricultural education, who has been in Cornell during the past year has returned to resume his duties.

Two of Georgia's "Master Teachers" of vocational agriculture have been employed in state positions with the Division of Rural Education at the Georgia State College of Agriculture—O. C. Aderhold and George King.

J. Henry Walker, president, Georgia Vocational and Trades School, Walker Park, was elected president of the Georgia Vocational Association for next year.

A resolution of appreciation was sent by the Georgia Vocational Association to Hon. Hoke Smith and the family of Hon. Dudley M. Hughes for their efforts in behalf of the Smith-Hughes Act. These Georgians were chairmen of the Committees on Education in Congress when the Smith-Hughes Act was passed. They served as members of the President's Commission to study the need for federal aid for vocational education.

Georgia presented more than 1000 certificates to members of trades classes in June for their work in completing one or more units of work during the year in part-time or evening classes. Ten diplomas for students who completed the Standard Evening School Course for Textile Employees were awarded.

Twenty additional departments of vocational home economics and ten new departments of vocational agriculture have been approved for next year.

Georgia will have the honor next October of entertaining the winners in the F. F. A. speaking contest for the Southern States. A Southern Contest will be conducted in Athens for the purpose of selecting a speaker for the finals at Kansas City. Eleven states will send speakers to Athens.

INDIANA

REPORT OF APPRENTICE COMMITTEE
FERMOR S. CANNON AND
MERRITT HARRISON, *Chairmen*

On January 1st, 1930, due to the resignation of Fermor S. Cannon, Chairman of the Apprenticeship Committee, I was appointed to head this work by President Daggett. Mr. Cannon's resignation was not due to any lack of interest in the apprenticeship activity but for the reason that he stepped out of the roll of architect which he has played for a long time so successfully here in Indianapolis, to take up his duties as Vice-President of the Railroad Men's Building and Savings Association. Mr. Cannon was the pioneer in the formation of the Congress apprenticeship work, and it is largely due to his interest and activity that the work has gone forward so splendidly.

The second year of apprenticeship training under the auspices of the Congress shows three trades with an organized plan of activity for this work.

The three trades whose training was undertaken last year are electrical, plastering and the continuation of the carpentry class. In setting up these classes it is necessary to obtain the complete co-operation of the Unions and the Employers.

Attendance

Attendance of two evenings a week during the school curriculum is vitally necessary. The Unions and Employers in the trades already organized have made school work compulsory, and their whole-hearted support is, of course, necessary to make this work effective.

Electrical Trade Has Largest Class

The electrical trade which was organized in November, 1929, has the largest enrollment of any of the classes. There are to date thirty-three apprentices and permit men enrolled and the course of study is being given very thorough consideration by the members of the Joint Committee under the advisement of Harry E. Wood, Director of Vocational Education, Edward E. Greene, Vice-Principal and Head of Vocational Department of Arsenal Technical High School, and H. F. Markus, head of the Electrical Department of Arsenal Technical High School.

Plastering Class to Be Re-organized

It is hoped next year to re-organize the plastering apprenticeship class in order to take in the lathing apprentices. The representatives of the Employers and the Lather's Union have been very interested in a course of training for this branch of the industry, and it is anticipated that something definite can be worked out agreeable to both trades next term.

Carpentry Apprenticeship Class Has Been Most Successful

The carpentry apprenticeship class which was started in February, 1929, with eighteen apprentices has increased its quota to twenty and the continued interest shown in this class has been very evident. E. R. Thiel, the teacher, should be especially commended for his ability in instructing these boys and the very fine co-operation he has given to this work.

The Carpenters' Union came to the front last year when the attendance was poor and passed a ruling that all carpenter apprentices must attend school. This has proven satisfactory in keeping the attendance up to where it it should be. Striking progress has been made by a number of the carpenter apprentice boys, and it is very likely that by the end of the next school term at least two will be able to pass an examination and become graduate apprentices in this trade.

Too much credit cannot be given to Harry E. Wood, Director of Vocational Education in the City Schools, Edward E. Greene, and the teachers at Arsenal Technical High School, for their assistance in the formation of these classes and the furthering of this work.

It is the desire of the Apprenticeship Committee to continue the organization of the various trade groups in the building industry and to this end a larger program has been outlined for the coming year. We hope to have the continued co-operation of the employers who have been so generous in supplying materials gratis for use in these trade courses, and the active support of the Unions, without which this work could not come to a definite conclusion.

We recommend to the Building Congress through the experience we have had with the apprenticeship work that the employers of the boys use some method by which attendance in these classes can be maintained. We feel that perhaps it might work out in a way

where the boys could be given an afternoon a week with pay to attend these classes which would greatly encourage and interest them in this work.

It is almost super-human for these young men to work continuously during the day and attend these classes regularly in the evenings. It is only those who are actively interested in the work that make a perfect attendance record.

There are a number of boys whose interest would be much more evident if they had the opportunity outlined above. Therefore, we plead for the full co-operation of the Employers in this apprentice work, and the Unions also will help considerably if they will make it obligatory for the apprentices to attend classes and encourage this work in their Union meetings.

KANSAS

Vocational Agriculture

The Kansas Vocational Agriculture Teachers' Association, which through the Kansas Vocational Association is affiliated with the American Vocational Association, maintains committees on Research, Professional Standards, Membership, Publicity, Contests, Conferences, and the Vocational Agriculture Congress at Kansas City. Preliminary reports of plans of each committee are given in the annual fall meeting in October, final reports being made at the annual close-of-the-year meeting the last week in June.

The organization sends a representative to the American Vocational Association Convention annually and sponsors the publication of the Kansas Vocational Agriculture Teachers Association News monthly. During the past year the organization maintained a membership of 93 vocational agriculture teachers.

Motion pictures were made of the entire program of activities of contest week for vocational agriculture boys of Kansas held at Manhattan, April 28-29-30.

A feature of the Kansas State Vocational Agriculture Contest Week was the farm mechanics contest which included welding, rafter cutting, timing gas engines, concrete mixing, identification of machinery parts, rope and leather work.

Kansas Laundry Short Courses in Wash Room Chemistry and Practice

On January 27th, 1930, the State Board for Vocational Education contacted Mr. William O'Hare of Chanute, the President of the Kansas Laundryowners' Association. The short courses held January 13-17th for Dry Cleaners of Kansas were called to his attention and he was asked two questions.

1. Do the laundry workers of Kansas need technical information which they do not now possess?

2. Will the laundryowners of Kansas, both association members and others cooperate with the Kansas State Board for Vocational Education in the organization of short courses for laundry workers?

Mr. O'Hara gave an emphatic answer of "yes" to the first question and invited the State Board to have a representative present at the annual meeting of the Kansas Laundryowners' Association at Wichita on February 12th.

As a result an education committee from the association was appointed consisting of E. A. Morgan, of Salina, Wm. O'Hare of Chanute and Fred V. Taylor of Independence. This committee together with H. A. Baltz, President, and Harry Sharp, Sec'y-Treasurer of the Association, rendered every assistance in the selection of a laundry expert, the selection of the four cities for the one day short courses and the publicity work among the laundryowners and washmen of Kansas. One day meetings in four well located cities were decided upon in order to encourage the attendance of washmen.

Mr. C. E. Lennox, research expert for the National Laundry Association was selected to conduct the short courses, the State Board for Vocational Education paying the costs of instruction.

Mr. Richard Matthews of Topeka, after correspondence with Mr. Lennox, developed the outline of instruction. This outline proved to fit the needs and interests of those in attendance very acceptably. The interest shown by laundryowners and their employees in the short courses exceeded the expectations of everyone connected with the plan. The following figures give a summary of the attendance at these meetings.

	Indep.	Topeka	Salina	Wichita	Total	
Present	27	33	17	34	111	
Cities	10	14	9	12		
Laundries	14	20	11	18		
Washmen	9	9	4	8		30
Mgrs. & Owners	14	18	12	19		
Engineers	1	1				
Others	04	5	1	6		

The morning meeting at Independence was held on May 13th in the Independence Laundry with Mr. Fred V. Taylor, owner, as host. Luncheon and the afternoon meeting were held at the Booth Hotel in the private dining room.

On Wednesday, May 14th, the laundryowners and employees in and near Topeka met at Ripley's Laundry at 9 A. M. and at 10 A. M. the morning session opened in the roof garden of the Jayhawk Hotel. Luncheon was served in an adjoining room and the afternoon session was held there.

On Thursday, May 15th, the morning session in Salina was held in the Chamber of Commerce while luncheon and the afternoon session were held at Rorabaugh's Tea Room in a private dining room.

On Friday, May 23rd at Wichita, the laundrymen met for an hour at the Wichita laundry. The sessions of the short course were held at the Lassen Hotel. Lunch was served in the lounge at the hotel.

Practically the same instruction was given in each of the four short courses. Mr. Lennox has agreed to write out the substance of his instruction which will be brought out in the form of a report by the State Board for Vocational Education at Topeka, Kansas. Mr. C. M. Miller, the State Director of Vocational Education, attended the sessions in Topeka on Wednesday and expressed himself as delighted with the practical nature of the instruction. He also seemed surprised that there is so much technical information needed in the washroom of modern laundries.

Kansas Cleaners' and Dyers' Short Courses

The Kansas State Board for Vocational Education held four one-day courses for Cleaners and Dyers of Kansas during the month of January. These short courses were given in the following cities Iola, January 13, 1930, Wichita, January 14th, Hutchinson, January 15th, and Garden City, January 17th, but because of a raging blizzard El Dorado could not be reached and this short course was abandoned with much regret.

Through the cooperation of Mr. Lloyd Lewis, of the Lewis Cleaners at Hutchinson, the services of Mr. C. C. Hubbard, Author and Consultant, Institute of Dyeing and Cleaning, Silver Spring, Md., were secured. Mr. Hubbard is an outstanding man in this line of work and is well known among the dyers and cleaners.

All employees, as well as employers, were invited to enroll at these short courses and a total of 257 men and women were registered. It is hoped by the members of the dry cleaners' industry that the 1930 short courses may be a forerunner of instruction to employers and employees of dry cleaning establishments in future years.

Mr. Hubbard spent most of the time in the morning meetings in lectures. The rest of the time was spent in working on garments brought in for his advice on cleaning and spotting. After luncheon, Mr. Hubbard delivered a technical lecture of interest to everyone responsible for the cleaning of fabrics.

Vocational Home Making

Classes in Parent Education have been held in several communities this year, Kansas City, Kansas; Argentine; Rosedale; Lawrence and Wichita. In each community several different classes have been conducted, thus reaching a large number of women.

Twelve radio talks on vocational

home making have been given from station WIBW, Topeka. On April 26th, Miss Florence Fallgatter, Federal Agent for the Central Region, talked to the vocational teachers and students from WIBW.

Many day school teachers are making provision for their girls to observe children. Each girl observes a child during all the usual child activities in a home. They also have observed groups of children in kindergarten or Sunday School. Several teachers have reported a children's party planned and carried out by the vocational home making girls.

The vocational home making class at Seaman Rural High School had an opportunity to assist in the Better Homes Week by planning an exhibit representing many phases of household economy. Over 1300 guests visited the exhibit during the week.

The final home project reports sent in from each day school show a gratifying growth in number and type of home projects carried out, and in the number of homes visited.

Several teachers visited 100.. of the homes of her girls. The comments of the mothers and of the teacher show that these contacts are very valuable in bringing about a better understanding of vocational home making.

KENTUCKY

$300,000 Ahren's Gift for School

Donates Cash for New Unit As Education Board Agrees to Buy Land. Early Start Planned

Announcement Friday by Theodore Ahrens of an additional gift of $300,000 to the Louisville Board of Education for an addition to the Theodore Ahrens Trade School, to which he already has donated $350,000, assured the city a technical institution as part of the public school system valued at but slightly under $1,000,000.

The Board of Education, accepting the gift, agreed to furnish the property on which the expansion unit must be built.

The school building already in use, contributed solely by Mr. Ahrens, together with the real estate and equipment, represents a book value of $500,000. The additional gift of Mr. Ahrens' $30,000, with the $100,000 probably to be paid for the new real estate and the equipment necessary for the addition, runs the total value of the institution to nearly $1,000,000.

The trade school was established in 1926 with the initial gift of Mr. Ahrens of $150,000. He later added $100,000 to the amount and after the school was opened he presented it with $50,000 for a gymnasium. A subsequent gift of $50,000 provided phases of work not at first included in the curriculum.

(*Reprint from a Louisville paper, May 1930*)

MARYLAND

Future Farmers Receive Maryland Farmer Degree

At a luncheon meeting of the Maryland Association of F. F. A., held recently at the University of Maryland, under the direction of Everett Weitzell, of Accident, President of the Maryland Association of F. F. A., Dr. H. F. Cotterman, Professor of Agricultural Education at the University, and Dr. J. D. Blackwell, State Director of Vocational Education, the following nine Future Farmers were elected to receive the degree of Maryland Farmer: Mach Bowman, Carl Everly, Austin Fraley, Merle Garletts, Ernest Hauser, Malcolm King, Everett Weitzell, Donald Williams, and Gordon Umstead. The following six members were raised to the Maryland Farmer degree: Carl Everly, Austin Fraley, Merle Garletts, Everett Weitzell, Donald Williams, and Gordon Umstead, Mack Bowman, Malcolm King, and Ernest Hauser will receive the degree at the next F. F. A. meeting, to be held at Frederick in October, 1930.

The qualifications of Future Farmers who were elected to receive the degree of Maryland Farmer follow:

Mack Bowman completed three years of systematic instruction in Vocational Agriculture in the Damascus High School, Montgomery County, under the direction of Donald Watkins. During 1926-27 he completed a half acre potato project, with an income of $100. In 1927-28 he carried on project work consisting of 3 Guernsey heifers and 11 Duroc Jersey hogs, with an income of $190, while during 1928-29 he had 4 Guernsey heifers, 2 Guernsey cows, a bull, and 10 hogs. His income was approximately $400. At the present time he has $750 of the amount earned deposited in a bank or productively invested. He is famaliar with parlimentary procedure and was secretary to the Damascus Chapter of F. F. A. during 1928-29. During 1928-29 he represented his local chapter at local, county, district, and state contests, ranking first in three, second in one, and third in one contest. During 1928-29 his average grade in all high school subjects was 90. At present Young Bowman is farming in the Damascus community and assisting in the promotion of vocational agriculture and F. F. A. work in the Damascus High School.

Carl H. Everyly has just completed his fourth year of vocational agriculture at the Accident, Garrett County, High School, the first two years under the direction of W. E. Tarbell and the last two under H. W. Beggs. During 1927-28 he completed a quarter acre potato project, with an income of $68.25. In 1928-29 he completed a quarter acre potato project, with an income of $75.00. During 1929-30 he has a half acre potato project, a 200 baby chick project, and is keeping books on his father's farm. He has earned and deposited in bank or productive investments, $375.00. He is familiar with parlimentary procedure, having been vice president during 1928-29 and secretary of the local chapter of F. F. A. during 1929-30. He was an alternate in the State-wide Public Speaking Contest held on May 3, 1930. His average in all high school subjects during 1928-29-30 has been 95.

Austin Fraley has completed 3 years' instruction in vocational agriculture at the Thurmont, Frederick County, High School, under the direction of Mylo S. Downey and Ross V. Smith. During 1927-28 he completed a vegetable garden project. During 1928-29 he owned 2 pure-bred Poland China sows with litters, the income on which was $125, while during 1929-30 he has purchased and carried on a project consisting of 7 baby beeves. He has $455 productively invested at the present time. While he has held no offices in the local chapter of F. F. A., he is familiar with parlimentary procedure. He has represented his local chapter on the State-wide Poultry Judging team. His average grade is 85. He was chairman of the F. F. A. banquet committee during 1929-30.

Merle Garletts has completed 3 years' instruction in vocational agriculture in the Friendsville High School, Garrett County, under the direction of G. E. Bishoff. During 1927-28 he owned a dairy calf, upon which he had an income of $45.00. In 1928-29 he grew a half acre of certified seed potatoes, with an income of $250 and has, during 1929-30, kept records on the home farm. He has $215 productively ininvested at the present time. He is familiar with parlimentary procedure, being vice president of the Friendsville Chapter of F. F. A. During 1929-30 he represented his local chapter in the State Corn Judging and Public Speaking Contests. He was awarded a gold F. F. A. medal in the State-wide Vocational Boys' Potato Project Contest by the Maryland Farm Bureau Federation in 1930 for the best potato project completed in Maryland during the summer of 1929. He has made an average grade of 85 in all high school subjects studied, and has shown a keen interest in the work of his local chapter.

Ernest Hauser completed four years' instruction in vocational agriculture at Friendsville High School, Garrett County, under the direction of J. C. Carter and G. E. Bishoff. During 1927-28 he grew a half acre of potatoes, while during 1928-29 he grew a quarter acre of certified seed potatoes, with an income of $75.00. During 1929-30 he is growing an acre of certified seed potatoes and keeping records on a 100 acre farm. He has $290 productively in-

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Training in Ship Building

THREE CENTURIES OF SHIPS

G. GUY VIA

Supervisor of Training, Newport News Shipbuilding and Dry Dock Company

On the 13th of May, 1607, a little band of courageous men sailed up the lordly James River in Virginia to establish our first permanent English settlement at Jamestown. Their fleet consisted of three small ships, the largest of one hundred tons burden, and the other two of forty and twenty tons respectively,—frail craft indeed for the perilous voyage they had just completed. So small were they that when night fell those early settlers simply tied their vessels to trees growing on shore, such little water did they draw. They were of course dependent upon sails for motive power, and were constructed entirely of wood which was marvelously jointed by craftsmen of the very highest skill, but withal they were still mere cockle shells.

Fifty years later, so we learn from the diary of Samuel Pepys, father of the English Navy, the English began experimenting with a second or double bottom inside their ships as a safety measure in case of damage to the ship's outer skin or shell. Thus a vessel with a damaged bottom might fill with water to this second floor or deck, and still remain afloat. This feature has been retained to this day, and has saved many a ship from Davy Jones' Locker.

Exactly two hundred years after Jamestown, in 1807, Robert Fulton astonished the world by discarding sails in favor of the steam driven paddle wheel, and steamed up the Hudson River from New York to Albany, a distance of 150 miles. Fulton, the Fool, became Fulton, the Genius, overnight, and Naval Architecture joined hands with Marine Engineering on that same eventful day.

WOOD VERSUS IRON

About ten years later, the iron plated ship began to appear despite the dire predictions of the pessimists of that day that such a ship could not possibly float; and twenty years later (about 1836) the screw propeller was patented although not generally adopted until many years afterward. A very curious experiment was performed in 1845 when the Paddle Wheel Steamer "Alecto" and the screw-driven duplicate "Rattler" (both British) were lashed stern to stern and engaged in a tug of war to determine which was the more powerful, the paddle or the screw. With the engines of both vessels turning up maximum power, the screw-driven "Rattler" towed the paddle wheeler astern at a speed of 2½ knots. The screw propeller had arrived to stay, but those who go down to the sea in ships were loath to experiment. Who shall blame them?

The superiority of the iron over the wooden vessel was demonstrated again and again in the grounding of various ships of both types during storms, and in the resulting damage the wooden vessel always suffered by comparison. The death blow was not dealt, however, until March 9th, 1862, when the iron-clad "Merrimac", or "Virginia", as she had been rechristened, engaged the peculiar looking invention of Captain John Ericsson, the "Monitor", in combat almost opposite the site of our shipbuilding plant in Newport News. You doubtless recall how the rebuilt Confederate Iron-clad, steaming slowly out of the Gosport Navy Yard at Portsmouth, just across Hampton Roads, had wrought havoc among the wooden frigates of the Federal forces, burning, ramming and sinking them with immunity from their shot afforded by her iron clad sides. Her career was halted however, the next day, when she engaged the "Monitor", a mysterious newcomer to that section, a "cheese box on a raft". For four long hours they fought with no material advantage to either, when each retired to a haven of safety never to meet again. From that day the wooden ship was doomed. It had established a nation on these shores, but it could no longer protect that nation.

The iron plate was surrendered in favor of steel about 1870, and all advances made since that time have been by the way of refinement with a steady increase in size, power, safety, speed and comfort typified today by such ocean greyhounds as our own "Leviathan" or Germany's "Bremen", Italy's "Roma", England's "Mauretania", or the French "Ile de France".

TRAINING NEEDS CHANGE

This development of naval architecture and its hand maiden, Marine Engineering, contemporaneous with American history are thus very sketchily traced in order to demonstrate how the training needs of shipbuilding change almost with each generation. The wooden sailing ships of the early colonists required in their construction the services of master craftsmen in wood—ship carpenters especially, and ship joiners. Canvas workers and ship riggers to arrange or fasten in place the hundreds of guys, stays, pulleys, etc., for handling the sails, completed the corps. The invention of the steam engine gave birth to at least two new crafts—machinists and boilermakers, and largely eliminated the canvas workers; when wood was abandoned for iron or steel as a sheathing, anglesmiths and ship fitters to fashion properly the metal plates and shapes and riveters to fasten them together became important divisions of the common task of building the ship and the woodworkers became less important. Further refinement in the art made necessary other division of duties until today we recognize in our plant nineteen separate crafts and one hundred and nineteen other listed occupations, all striving toward a common goal. The problem of setting up a suitable and adequate training program under such conditions is indeed one of magnificent proportions, to say the least.

UNUSUAL PROBLEMS IN BUILDING SHIPS

Nor is this all. Let us consider for a few minutes some of the unusual questions which arise in designing the ship and which must find a satisfactory solution before actual construction is begun. For what service is the ordinary merchantman intended, bulk liquids like oil or molasses, ordinary freight or combination freight and passenger? Such ships would vary as widely as their parallels in the railroad world—the tank car, the box car, and the passenger car. Will she burn coal or oil, and is the run long or short? You know how serious a problem an empty coal bin is in your own home. An empty bunker on the ocean would present a far graver situation. If the ship is to ply in the tropics, ventilation must receive special attention. South American rivers are full of sand bars and only shallow draft vessels are suitable for such commerce. And so on through an indefinite list.

Perhaps a few of our engineering difficulties will interest you, foremost among which is the determination of the underwater body shape to obtain highest speed at a given power output. A lumbering, poky old "tramp" steamer is hardly more than a big steel box slightly sharpened at both ends to decrease water resistance. The express liner is very tapering at bow and stern to produce what automobilists call "stream line effect". These variations in shape cannot be worked out mathematically, but are determined by towing small models of the proposed vessel in a large tank and measuring the variations in towing effort arising from changes made in the model,—all experimental of course. When a satisfactory shape is finally arrived at in this manner, the finished product is designed therefrom. In this connection it is curious to note that a bulbous underwater bow increases speed contrary to what the average man would expect, and the new passenger vessels are now being built with this unusual looking prow, as though the ship had struck her nose on some submerged object, and her nose had swelled!

THE CAUSE OF SEASICKNESS

There are two enormous forces at play in a floating ship, one the weight of the ship acting downward through

the center of gravity, and the other the effort of the displaced water which keeps the ship afloat, acting upward through what is known as the "center of flotation". As long as the vessel rides an even keel these forces neutralize each other, but when she rolls, these forces develop a lever arm and the fun begins. One force tends to capsize, and the other tends to right the vessel. These are carefully worked out by the architects so that she will always right herself without snapping back to a vertical position too quickly to throw one off his feet, but with an easy roll.

"Hogging" and "sagging" are terms used to describe the effects of the tremendous forces brought into play by the passage of the ocean waves under the vessel, and which must be provided for in her construction. The distance between waves is such that when the stern of the average vessel rides the crest of one, the bow is supported on the wave next succeeding, tending to break the vessel in twain across the bottom, an effect called "sagging". The next instant the stern wave has passed on, the bow wave is now amidship, and the third succeeding wave has not yet struck the ship. We now have the vessel supported in the middle, with both bow and stern trying to plumb the depths tending to break the vessel in twain now across the deck. This is known as "hogging". These effects are not imaginary at all, as cracked plates and buckled decks often testify after storms, and the designer must be alert to guard against weak construction here.

Dogs pant, and so do ships. When the bow of the vessel is submerged, the pressure of the water tends to collapse the forward portion of the ship. A few moments later the bow is out of water, and with the release of that pressure the sides spring back again. This is called "panting", against the evil effects of which our ship must be strengthened, if we are to avoid sheared rivets, loosened plates, and foundering at sea.

Again we learn in physics that certain dissimilar metals immersed in an electrotype will set up galvanic currents with an erosive effect. This is particularly noticeable around the stern of a vessel where the bronze propeller and the steel hull are in close promimity. Indeed we find it necessary to attach zinc plates in convenient places so that these may be eroded and renewed from time to time instead of the bronze propeller or the steel of the ship.

These few illustrations will serve to demonstrate how very complex a ship is from the standpoint of design, and what a wide range of knowledge must be covered in a shipbuilding training program. It is not sufficient that a ship be designed well. Intelligent comprehension of these principles must direct the hand of the craftsman as he labors, for we have a moral responsibility that the boats we build shall be staunchly built, and that the men, women and children aboard shall arrive safely at their destination, and not go down to a watery grave because of negligence in our workmanship.

The Jargon of Shipbuilders

As stated before, we teach nineteen crafts and train in one hundred and nineteen occupations in our business. When we remember that a vessel is a floating city, moving about under its own power we must also realize that there is a vast amount of auxiliary information to be taught in connection with each trade. The ordinary house plumber would be lost aboard ship. The average carpenter or joiner would scarce know where to begin. On a ship the right angle is the exception; practically everything is cut or made to a bevel. The decks have an easy curve fore and aft, called "sheer"; they are crowned across like a highway, called "camber". The mast and funnels slope gracefully backward into a "rake".

Even the terminology is strange. Partitions become "bulkheads"; floors become "decks". The kitchen is the "galley". No crow ever nested in the "crow's nest". The "niggerhead" has no wool on it, and the "wildcat" needs no cage. Boobs aren't kept in the "booby hatch", nor do "Devil's claws" belong to his Satannic majesty. The "handy billy" isn't a mascot goat, and the "spectacle frame" has no lenses. Nevertheless these are all good shipbuilding terms and when hundreds of others equally as odd are added to the list, you can appreciate how carefully the newcomer must be introduced into such a novel and what appears to be lunatic world.

The Elements of the Training Program

Shipbuilders all over the nation are giving much thought to the solution of this stupendous training problem. At present the best method of attack is offered in the title of Mr. Charles R. Allen's book, "The Instructor, The Man and The Job", for by a certain careful study of these three elements, (1) the instructor, (2) the man, or learner, and (3) the job, much fine progress has been made. Needless to say, the context of Mr. Allen's book deals amply with each element.

The Instructor

We are realizing more than ever before that everybody's job is nobody's job, and we are localizing the responsibility for training in full-time instructors wherever the number of apprentices employed will justify such an arrangement, thus relieving the foreman or quarterman, who is already overburdened with the problems of production alone. These instructors are carefully chosen for their knowledge of the craft as well as their pleasing personalities, and are given the usual intensive teacher-training course to prepare them for their new jobs. They are paid a salary sufficiently high to interest the best type, and are attached to the Training Department's pay roll. Later on, as they become more proficient, lecture courses are arranged for after work hours in such subjects as Vocational Psychology, Industrial Economics, Sociology, etc., all tending to broaden their horizon as teachers. So far, results have been very satisfactory.

The Learner

The study of the second element, the learner, begins with the preliminary interview when a record is made for the salient facts in the boy's history, and his name is added to the waiting list of applicants. We now prefer a boy 18 or 19 years of age, well developed physically, of unquestioned integrity, and a high school graduate if possible. We have done sufficient research work to satisfy ourselves that a very close correlation exists between intelligence as indicated by the modern so-called intelligence tests, and progress in craft training, and as this intelligence is usually directly proportional to educational attainment, we are coming to rely more and more on previous school records for our selections. I regret that time does not permit further discussion of this interesting subject, although I will add that results so far obtained with the "mechanical aptitude" tests are in a measure disappointing.

The learners are segregated whenever possible under the close supervision of their instructors to avoid annoying and often unwise interference with their training by well-meaning, but uninformed outsiders. We are just beginning a shop for our machinists apprentices which will cost $120,000 when completed where only apprentices will work, marking the twelfth group of learners which we have been able thus far to segregate.

The Training Objective

The training objective in every case is Richard's Formula for Effective Training which takes account of hand, head and heart. Even our progress reports have been developed with this formula as a basis. A brick school building just completed enables us to "put over" such Auxiliary Information as Mathematics, Mechanics, Science, Mechanical Drawing, English and Industrial Economics. Classes are held on Company time, and attendance for three years is compulsory. A "complete time" basis is used in grad-

ing, and failure in the school is considered sufficient cause for dismissal.

The Morale factor of this formula is developed largely through our extraneous activities which include a Savings Bank, an Apprentice Band, an Honor Council, Apprentice Rings, Pins, Pennants and Caps, and last but by no means least our athletic teams. We are proud possessors of the third and best flood-lit athletic field in Virginia, seating 2000 spectators comfortably who are informed of the details of the game by loud speakers conveniently placed, while untold thousands listen to the same details as they are broadcast over the local station. This beautiful field was built by the apprentices and their instructors after work hours, the Company furnishing only the site and the materials. Neither does the Company provide money for their athletics, but an annual budget of more than $6,000 is taken care of by dues of the apprentices and paid admissions of the spectators.

The Job

The final element, the job, has presented the greatest difficulty. As rapidly as possible we are analyzing each craft thoroughly and developing suitable "type jobs" which are listed on a long chart together with the names of the apprentices in the department, and hung in a conspicuous place. As the boys attain proficiency in each block, it is so indicated on the chart which thus becomes a progress record for each learner, and a stimulus to healthy competition. At first we had much difficulty in securing the proper type of work for the learners, but the introduction of these charts has caught the interest of our production supervisors who are now eager to aid in securing the type of work needed at any particular time, and real effective training is proceeding at a lively rate.

Measuring Results

Better yet, we are converting antagonism into confidence. The old-time foreman resents very heartily any curtailing of his responsibilities and the introduction of this new method of training seemed to lop off quite a slice from the sphere of his influence. A little tactful handling, however, made adjustments an easy matter, and the foreman began then to challenge the ability of the boys to perform more and more difficult jobs. Perhaps he hoped that they would fail so that he might say, "I told you so". Perhaps he was sincere in determining how far these learners might be trusted with important work. In any event, not only did the new training system meet his tests, but often exceeded his expectations, thanks to an able corps of instructors. For instance, the seams of sheet lead encasing the refrigeration space aboard ship are usually soldered.

The apprentice plumbers requested and obtained permission to burn in the joints on the new "Pennsylvania" which we have just turned over to the owners, successfully completing, so far as we can find out, the first job of this type in the world at a great saving to the Company. The idea originated with our plumbing instructor, and was carried through by a group of enthusiastic learners.

No discrimination is made between journeymen and apprentices in issuing work in our pattern shop; our joiner apprentices are now being allowed to make the finest furniture and stairways. Ship carpenter apprentices are laying decks and making spars and masts. And so on through all the departments a fine feeling of confidence is being developed.

In Conclusion

I love to stand on the river front of our plant, and recall that little band of sturdy pioneers who three hundred and twenty-two years ago sailed along that might stream to establish a nation at Jamestown. I can well imagine the fear and astonishment of the Indians as they run along the dogwood-studded river banks, watching and wondering at the marvellous sight. As the three frail barks disappear around the bend in the river, canoes dart out from the coves and creeks filled with dusky, excited warriors armed with spears and arrows, who stealthily trail the pioneers to their final landing place. What a day that was in the history of America! What a span in the art of shipbuilding—canoe to sailing bark!

And then again I recall the day not long ago when the mighty "Leviathan" backed out from our piers into that same river to take her place as Queen of America's Merchant Marine. What a span in the art of shipbuilding—sailing bark to ocean greyhound!

And finally when I recollect that descendants of those same hardy colonists are today learning to build other "Leviathans" almost on the scene of these early adventures, there comes the challenge which was so ably expressed by the founder of our Company, Mr. Collis P. Huntington, many years ago when he wrote to one of our managers:

"We shall build good ships here;
At a profit if we can,
At a loss if we must,
But always good ships."

VOCATIONAL TRAINING IN THE PUBLIC UTILITIES INDUSTRIES

L. G. Ireland
Assistant to Vice-President, New Orleans Public Service

A good deal of thought, time and money have been expended by New Orleans Public Service Inc. in the training and education of its employes, and, of course, being a commercial institution, the company has been actuated largely by the hope that its own standing in the community and its financial position would be bettered, if, by education and training, it should succeed in better fitting its employes to perform their work in conformity with the policies of the company and in a manner satisfactory to the users of its services—electric, gas and railway.

It is our belief that the average person either cannot or will not develop his capabilities even moderately—let alone fully—unless given a great deal of encouragement, and unless the road is smoothed for him.

We believe, too, that a company cannot reasonably expect or demand the highest grade of work from its employes unless and until it has given them the opportunity to attain a clear understanding of its policies and of their job requirements as well as providing them with competent departmental and sub-departmental leaders to plan for them and to supervise them. The employe cannot do what the employer wants unless the latter has made clear to him what he (the employer) does want.

Finally, we feel very strongly that for the employer to reap the fullest benefits from any expenditures for the education or training of his employes the work should be done by the employer.

The above considerations are the ones which underlie and have shaped the Education and Training Program of this company as developed to date. This Program embraces the following types of work:

I. Foreman Training.
II. Evening School.
III. Job Instruction.
  a. General Conference Work for Special Groups, such as Meter Readers, Meter Inspectors, Meter Installers, Outside Servicemen and Salesmen, Employes of the Credit and Collection, Customers' Service, and Contract Departments.
  b. Trade Training—This covers all forms of special training provided for the purpose of developing skill in doing the job according to the company's standards.
    1. Gas Fitters' School.
    2. Electric Power Station Equipment and Operation Course.
    3. Course for Electric Troublemen and Railway Emergency Linemen.
    4. Gas Meter Repairing and Building.

The policy that is being followed in carrying out this program recognizes first, that all education and training

work should keep foremost, in all of its plans, the requirements of the service for which the company exists. The development and growth of capabilities of employes come out of this main purpose. The better trained the worker, the more efficient he will be and the better will he represent the company in his public contacts. The daily work to be done by the employe, however, is first in order. The employes are first workers, and second learners; they are employed to work.

It was decided, in laying out this program, that any training or education necessary for the satisfactory performance of present, as contrasted with prospective duties and responsibilities, should be given on company time. All other forms of education and training are provided on the employes' time. Courses, such as Arithmetic, Electricity, and Accounting, which tend to broaden the employes' point of view and which definitely contribute to his general development and growth are provided in the evening school. Specific job training which concerns itself with the work to be done each day is carried out during working hours. Where operating requirements, such as are found in the Electric Substations and the Market Street Steam Electric Generating Station, do not permit of giving the instruction during working hours, the employe comes back to the plant during the periods he is not on duty and is paid at his regular rate for the time he spends in class.

I. Foreman Training

The first step in carrying out the Educational and Training Program was the providing of suitable training for foremen because, regardless of the type of plan adopted for the training of employes; regardless of the abilities of our employment and placement officers, one of the most important elements which influence human efficiency in an organization is supervision. The importance of the foreman or supervisor in a public utility, in fact, in any industry, as an administrator of men, as well as a director of operations, has been recognized in an increasing degree during recent years. He is responsible in the final analysis for the carrying out of the policies of the management, and his success or failure in doing this has a profound effect on the worker and on the public. The management may have a broad, generous attitude toward its employes and a liberal policy toward its customers, but these can be absolutely nullified by a foreman lacking in the vision that is so necessary in an executive.

The foreman or supervisor in a public utility must be capable of interpreting everything he does in terms of continuous efficient service to the public. He must not only be well versed, therefore, in the mechanics of his job, but he must understand men. He should be able to recognize their human qualities as well as their mechanical or physical powers. He should also be capable of analyzing the reasons for an individual's failure to perform efficiently and be able to apply common sense remedies in solving the problem. He should be a wise lawmaker and a fair judge. He should be capable of arousing departmental and company loyalty and interest, in short, he must exercise the qualities of leadership.

Foreman Conferences were first started by New Orleans Public Service Inc. in 1924. They have been held more or less continuously since that time in the Electric Distribution and Power Departments, Roadway, Transportation, and Gas Departments. The plan followed calls for a series of weekly meetings held on company time, which foremen and their assistants are required to attend. The time for the meeting is arranged so as to offer the least interference with our service. Each meeting lasts an hour and fifteen minutes. The case method of instruction is used as a means of developing the subject for discussion, and the "teacher and pupil" attitude is studiously avoided.

The subjects covered in a series of these conferences are rather broad in scope, yet the material developed in each case is specific and directly applicable to the job. The following list will give some idea of the nature of the subjects:

The Foreman in Industry.
The General Responsibilities of a Foreman in His Own Department.
Co-operation.
Accident Prevention.
Interest.
Qualities of Leadership.
Planning.
Job Specifications.
Rating Men.
Records and Reports.
Public Relations.

One valuable result obtained through the Foremen Conferences is the training and experience gained by the foremen through analysis; participation in the discussion of the various topics forces the men to study their jobs from all angles. It helps to break them of the bad habit of "jumping at conclusions" without having all of the facts in the case.

It has been pointed out before that all education and training work should keep foremost the requirements of the service for which the company exists, so in the Foreman Training the discussion of the principles of good management has usually been followed by definite results in the way of the development of operating procedures and standardization of practice. The discussion, for example, on the visors has resulted in the development of a manual covering the operations of the various lines of our Street Railway System in the event of a blockade or interruption of service at any particular point. It is essential that supervisors prevent congestion of street cars as well as of other traffic and that every effort be made to maintain a schedule satisfactory to the public. It is necessary, therefore, to have a standard practice for re-routing the affected lines in order to meet the requirements of the traveling public under these conditions. The development of the subject of Planning through a discussion of the handling of interruptions in traffic resulted in the essential principles of good planning being most thoroughly impressed upon every man by having to actually apply them to the working out of a series of definite problems met with in his work.

A map showing the different sections of the city was drawn on the blackboards, the blockades located on it, and the various conditions surrounding it. The group discussed the best means of remedying these conditions with the least possible loss of time and with the least inconvenience to the passengers. In some cases as many as five different plans were suggested for handling the blockade, but when each plan was checked against the standard that had been set up in the discussion of good planning, it eventually resulted in the adoption of the one that met all of the necessary conditions. There is no question of the effectiveness of this type of work and its great value as compared with a general discussion of the principles of good management which are involved in planning without a practical demonstration of their application.

II. Evening School

The next step in the development of the Education and Training Program was the establishment of an Evening School in October, 1926. It was organized to provide the employes of the company with an opportunity to secure such training as is needed in their work, and which could not be given efficiently through existing educational agencies. Most of the educational programs laid out for the men in industries are not attractive enough to hold them. The work is either too advanced for the average man, or the courses offered cover too long a period. Without detracting at all from the high value of correspondence courses to the exceptional man, it must be acknowledged that the average man has not the tenacity of purpose necessary to carry him through the solitary grind of a correspondence course. It is also true that city evening schools usually find that they have lots of room for more students after a couple of weeks of hard work. This, however,

is no reason for giving up the job. It simply means that the average man is in need of a great deal of help in getting the training necessary for the job he is holding or for a better one ahead, and points very clearly to the advisability of conducting educational classes as a company activity and under company auspices.

The courses offered in our Evening School are general in scope, yet are designed to meet the specific needs of the employes on the job. They are broad enough to provide a foundation for future development along any line the individual might follow. It is felt, however, that anyone enrolled in any of the courses will very quickly discover that what is offered will contribute considerably to his efficiency on his present job.

When plans were drawn for our office building, which was completed during October 1927, four class rooms were included. These are furnished with blackboards and other class room equipment. Tables suitable for drafting and similar work are provided for some of the class rooms, while others have tablet arm chairs. There is also an assembly room with a seating capacity of over 300. It is equipped with blackboards and is used as a class room when all others are filled.

It was planned, when the Evening School first opened, to conduce one or two classes in Practical Electricity. The response, however, was so great that it was found necessary to have four classes in Electricity, and in a very short time to add classes in Shop Arithmetic. At the close of the first session, June, 1927, there were in operation six classes in Practical Electricity, two in Shop Arithmetic, and four in Principles of Accounting.

The enrollment for the session which closed June 21, 1929, reached a total of 1,227. The employes enrolled ranged in age from 15 to 60 years. There were forty-two classes operating under the supervision of twenty-seven instructors.

The present session opened October 14, 1929. The total enrollment as of November 8, is 678. The following is a list of the courses offered during the session, 1929-1930.

Schedule Making—This course is designed for those directly connected with the Transportation Department.

Introductory Electricity—A course designed primarily to meet the needs of those employed in clerical or sales work, for the purpose of giving the student a broad view of the Central Station Industry.

Practical Electricity—Of special interest to those who are at present employed in the electrical field and who wish to prepare themselves by further study for advancement in that field.

Transformers—This course is an elementary study of the theory, construction, and operation of transformers.

Electric Railway Equipment and Operation—This course presents the subjects of usage, maintenance, operation, and elementary design principles of the electric and pneumatic equipment used on street-cars, electric locomotives, trackless trolleys, and gas-electric buses in use at the present time.

Slide Rule—Instruction is given in the use of the slide rule in performing the various mathematical operations.

Blue Print Reading—In this course the ability to read blue prints is developed by making drawings from simple objects. Blue prints involving construction details for pipe lines and electric line construction, etc., are analyzed and discussed by the class.

Elementary Business Accounting—An introduction to bookkeeping. This course provides preliminary training in the fundamental principles of recording business transactions.

Intermediate Business Accounting—This course deals with the application of accounting principles to sole proprietorships and partnerships.

Public Utility Accounting—This course covers all phases of Public Utility Accounting from the organization of a going concern to dissolution, including also some economic aspects, such as rate making, regulation, valuation, relations of accounting to management and service to customers.

Electric Meters—This course is of special interest to the employes of the Electric Meter Department. It deals with Direct Current and Single-Phase Alternating Current Meters.

Fundamental Principles of Machines—This course is intended to teach some of the laws governing the operation of mechanical equipment, such as the lever, inclined plane, the wheel and axle, lifting jack, and block and tackle, etc. It is of interest to those concerned with the maintenance and operation of equipment involving power transmission devices.

Practical Heat—This course deals with heat and its practical applications in the Power Plant.

The necessary textbooks are purchased by the company and paid for by the men on a monthly basis. The amount paid by the students for textbooks is refunded by the company provided the individual has been regular in attendance.

The textbooks used in the courses in Introductory Electricity, Electric Railway Equipment and Operation, Fundamental Principles of Machines and Transformers were written by the Instructors. These texts are designed not only to provide technical information about the generation and distribution of power, but also to supply specific information regarding the methods that are being followed by this Company.

The company places special emphasis on the fact that all instructors are employes of the company, especially selected for their ability to handle men as well as for their knowledge of the subjects which they teach. They receive extra compensation for this work.

III. Job Instruction

It was further found necessary, in order to increase the general efficiency of our organization, to establish a program for definite job instruction. This type of work is divided into two general classes.

A. General Conference Work for Special Groups, such as Meter Readers, etc.

B. Trade Training; This covers all forms of special training provided for the purpose of developing skill in doing the job according to company standards.

A. General Conference Work

The general conference work, such as provided for Meter Readers, Outside Servicemen and Salesmen, Gas and Electric Meter Inspectors, and Electric Meter Installers, was devoted to the instruction of the group in the best method of doing the job in accordance with the policies of the company. A great deal of attention is given the "customer contact" phase of the job. These conferences are organized along the same lines as those for our foremen and are conducted on company time. It is a rather interesting adaptation of the case method of providing instruction for groups below the supervisory grade.

The subjects discussed at the meetings for Meter Readers covered the following range: Co-operation, Public Relations, Reading the Meter, Customers' Equipment. The same general policy was followed of making the work definite in its application, and as a result, a Meter Readers' Manual was developed, which serves the man as a general reminder of what is expected of him when meeting our customers. It is not a rule book; it requires the man to use his judgment in every case yet serves as a guide to him so that his work may be carried out in complete accord with company policy.

Special conferences were organized during the past year for Outside Servicemen and Salesmen. These meetings were held once a week and lasted for two hours. The course covered Public Relations, Attitude of the Company toward Competitive Lines, Functions of the Credit Department, Construction and Operation of Gas and Electric Equipment, and Rates.

A series of meetings were also held for the Electric Meter Installers. These ran through a period of approximately

six months. The subjects covered were similar to those outlined for Meter Readers. They included a discussion of Public Relations, Co-operation, Interest, and Accident Prevention. An analysis of the job from the standpoint of customer contact was made, and the most satisfactory procedure in each case was adopted as standard practice.

The series of meetings for Meter Inspectors covered a period of seven months. The men were brought in weekly. A complete analysis of the job of the Meter Inspector was made from the standpoint of public contact with the object of developing a standard practice. The subjects covered were similar to those listed for the other groups, but the angle of approach was somewhat different due to the special type of work in which these men are engaged. A few of the subjects discussed were Public Relations, Co-operation, Accident Prevention, Standard Practice for Inspection of Meters, Customers' Equipment, and Records and Reports. It was essential that these men be capable of checking up on the condition of a meter in the shortest possible time, and in making the adjustments required to standardize it when necessary.

The program for the employes of the Credit and Collection, Customers' Service, and Contract Departments is now being worked out, and it is expected that training conferences will start in the near future. It is planned to hold two meetings a week in order to shorten the period necessary for carrying out the course. The work will include the analysis of the job in each department with special emphasis on the problem of customer contact in an effort to provide the groups with definite information as to how they can assist in the development of good Public Relations.

B. Special Trade Training

Special trade courses designed to develop skill in doing specific jobs according to company standards are being conducted in both the Gas and Electric Departments.

All employes of the Gas Meter Department, including complaint men, are required to attend the Gas Fitters' School. It operates throughout the entire year. Four men are brought into the school each day and given instruction in one unit of the course. For example; all of the men are put through the units of pipe fitting and cutting before starting on meter setting. Written examinations are given and their rating determined by these as well as by the way they do the work in the school shop and on the customer's premises. The instructor goes out on the job and checks up on the work at regular intervals to determine whether or not the men understand what has been taught, and what additional instructions might be needed.

During August, 1928, the company was faced with the problem of changing over the gas service from manufactured gas to natural gas, which is supplied from the Monroe Fields, about 250 miles from New Orleans. This meant that the company had to adjust every cooking appliance in the city of New Orleans so that the natural gas could be burnt efficiently, and this job had to be done in the very shortest possible time. It meant temporarily employing approximately 500 men and training them to make the necessary adjustments to the appliances as well as in meeting the customers. They had to be properly schooled in company policy relative to courtesy and service. It was very essential, also that they knew exactly what they were doing when it came to making the mechanical adjustments to prevent damage to the customer's property or possibly injury or loss of life.

The men were carefully selected. Approximately 1200 men were interviewed and 500 finally put to work. Having available the organized training course for Gas Distribution Employes, with a competent instructor on the job, it was possible to train the 500 men in approximately ten days. The men were sent through the school in groups of ten, and the instructor and his assistant, having previously made a very careful analysis of the job, were able, in about two hours' time, to instruct a group of ten in the mechanics of the job. Each man was given a test covering the important points in making the adjustment and the necessary precautions that should be taken in preventing accidents. The men were also brought in and carefully instructed as to how they were to approach the customers, and what the company expected of them as its representatives on the job.

By having this work carefully analyzed and presented to them in very definite form, they were thoroughly familiar, after one day's instruction, with what was expected. The entire city was changed over in about sixteen working days without an accident or without a single man being reported by a customer for being discourteous or for not doing the work properly. This is an example of the value of an established education and training program in meeting an emergency situation, which, had it not been properly handled, might have cost the company a large sum of money in damage to customers' property as well as in loss of good will.

The foremen who were in charge of the changeover teams were drawn from all departments of the company. Having had advantage of the foreman training conferences they were able to make the necessary adaptations to the new work and secure the co-operation of the groups of men who were temporarily employes especially for that job.

Our Standard Training Course for Gas Distribution Employees provides instruction for gas fitters and other employes in that department, in meeting the public, general pipe fitting practice, meter work, handling of complaints, the installation of gas appliances, and the determination of gas pressures and measurements. The outline for this course is complete in every detail and covers all branches of work necessary in connection with our gas distribution system.

It has also been found necessary to establish a course in Electric Power Station Equipment and Operation. It is arranged to meet the needs of those engaged in the operation and maintenance and construction of the Market Street Steam-Electric Generating Station and Substations. All class work is carried on at the Market Street Steam-Electric Generating Station. A section of one floor in the building has been set aside for this work and equipped with the necessary apparatus for carrying out the training program. There are two three-hour sessions held weekly on Monday, Tuesday and Wednesday. The first starts at 8:00 A. M., and closes at 11:00 A. M. The second starts at 11:00 A. M., and closes at 2:00 P. M.

The schedule for the different groups is so arranged that each man attends one three-hour class every two weeks. There are approximately ten men in attendance at each session.

The course for Electric Troublemen and Electric Railway Emergency Linemen was organized for the purpose of familiarizing the men with railway line construction and the best methods of clearing trouble along these lines. The meetings were held weekly and lasted for two hours. The class was under the supervision of the Assistant Superintendent of Distribution.

The Gas Meter Course is organized to meet the needs of the men engaged in gas meter repairing and building. It is planned to have twenty-six weeks of lecture work lasting one hour each. There are also two hours each week devoted to practice work at the bench under the supervision of the instructor.

While there is not yet sufficient perspective on the results flowing from our efforts in educational and training work to warrant us in making any sweeping claims, we can at least say that we feel sufficiently encouraged to continue the expenditures for the work on their present scale. While we still regard the work as semi-experimental in nature, nevertheless the experiment has progressed far enough that we feel well warranted in continuing its financial support—which, after all, is about the best endorsement which could be asked.

AGRICULTURAL EDUCATION

Fitting Tools

L. M. Roehl
Author of "Fitting Farm Tools"
Cornell University

One of the most important problems confronting farmers and others who use tools, is how to keep them in good working condition. To buy new ones, when those at hand are out of good working order, is out of the question because of the cost. To hire it done necessitates taking the tools from the point of service, and being without them for an indefinite period. Then, too, the natural tendency is to put it off. Surveys reveal that unless the users of tools fit them, they are, in most cases, in poor working condition.

Following is a list of the tools commonly used in the farming occupation, and it seems that one of the outstanding kinds of work in shop courses where boys are in training for farming, might well be to learn how to fit such tools as they are likely to use.

In making out the course of work in tool fitting for the boys of any schools it is understood that only those are to be included that the learner will be likely to employ in the type of farming for which he is in training.

Grinding Jobs

1. Axe
2. Scythe
3. Cold Chisel
4. Iron drill
5. Mowing machine sickle
6. Plane iron
7. Wood chisel
8. Ensilage cutter blade
9. Disc harrow
10. Draw shave
11. Butcher knife
12. Jack knife
13. Trimming shears
14. Sheep shears
15. Scissors
16. Auger bit

Filing and Fitting Jobs

1. Cross cut hand saw
2. Hand rip saw
3. Pruning saw
4. Crosscut saw
5. Circular cordwood saw

Forging and Tempering Jobs

1. Cold chisel
2. Center punch
3. Punch
4. Pickaxe
5. Mattock

Handle Fitting Jobs

1. Fork
2. Axe
3. Shovel
4. Hammer

In all homes, country, or urban, the hand saws are in use more or less, and those who can fit them not only have the satisfaction that attends the owning of saws, but the additional pleasure that comes with the use of them in good cutting condition.

Following is a set of directions for fitting a crosscut hand saw:

Clean the saw:

Lump pumice stone is good material for cleaning saws, plane irons, wood chisels, and other similar tools. Sandpaper and emery cloth will leave marks on the blade of a saw and should not be used.

To clean the saw, place it flat on a solid support. See Fig. 1. A good way is to use a board in a sink. Wet the blade with water and rub it vigorously with the pumice stone, until all the rust is worn off. Then rinse off the rusty water, and dry the blade with a rag or waste.

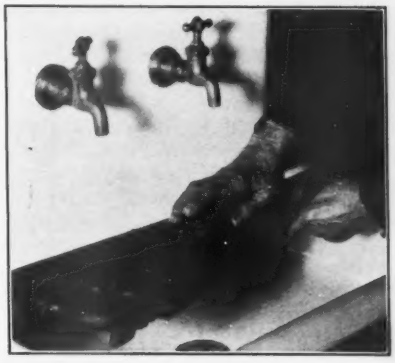

Fig. 1—*Cleaning a saw with pumice stone and water.*

Joint the saw:

Place the saw blade in a saw clamp, with the teeth at least an inch and a half above the jaws of the clamp. Hold the file between the thumbs and index fingers, with the fingers pointing toward you. This is an easy way to hold the file at right angles to the blade. Stand at one end of the saw clamp, and push the side of a flat file lengthwise over the teeth, as shown in Fig. 2. Look at the points of the teeth toward a light, and see if the points of all teeth have been touched by the file. If not, the process needs to be continued until all points have been hit. The purpose of jointing is to bring all teeth to the same plane, so that, when filed, all will do an equal amount of work. After jointing, the saw is very likely to have an appearance as shown in Fig. 3, and the filing needs to be directed as indicated by the arrow points.

File the saw:

Theoretically, the step that follows jointing is that of setting the saw. Our experience with most of the saws that are brought from the farms to be fitted has been that, when they are jointed, over half of some of the teeth has been filed away. This makes it necessary that the saw be filed before setting, in such cases. Place the saw in the clamp so that the tips of the teeth project above the jaws of the clamp not over a quarter of an inch. This holds the saw blade firm, so that there

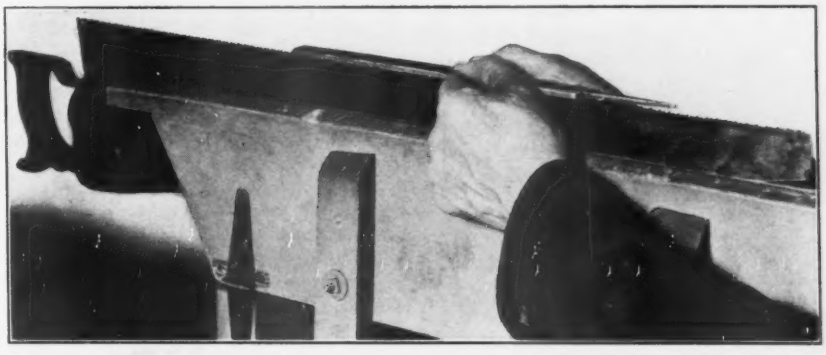

Fig. 2—*Jointing a saw.*

will be little or no vibration, and the attendant screeching. The saw is placed in front of a window, so that the light will show the bright or shiny surfaces at the tips of the teeth.

Saws may be filed by pointing the file toward the tip or heel. Some carpenters prefer to file their saws toward the tip, claiming that the saw "takes hold" better, and that it makes a smoother cut. Others prefer to file toward the heel. The point is that one must be consistent, and file both sides toward the heel or tip, and not file one side toward the heel, and the other toward the tip.

Stand as shown in Fig. 4, facing the saw. Start at the heel and hold the file across the blade, at an angle of 45 degrees. A combination mitre and try square is very handy in testing this angle. Hold the tip of the file between the thumb and index finger of the left hand, with the palm of the hand toward you, as shown in Figure 5. Keep the left arm free; do not allow it to rest on the saw blade or clamp.

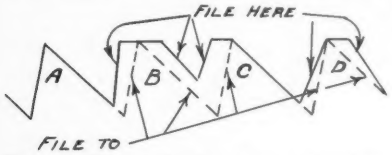

FIG. 3—*The teeth of a crosscut handsaw after jointing.*

If one side of the file were held in a horizontal position, the front and back edge of each tooth would have the same angle. It would make what is known as a "peg tooth" saw, which would not "take hold" well when the saw was in operation. The file needs to be tilted toward the tip of the saw 12 degrees, as shown in Fig. 6, so as to give the saw teeth the proper "hook." The handle end of the file is held just a few degrees below the horizontal, so as to prevent the screeching that is caused by vibration of the saw blade, when the file is held at or above a horizontal position. Files cut on the forward stroke only, and so the file is raised on the return stroke. Use long, light strokes with the file, applying a uniform pressure. The back of one tooth and the front of the tooth next to it are filed with the same stroke. See Fig. 6. The file is tilted toward the tip of the saw to obtain the hook to the tooth. In learning to fit saws, it has been helpful to lay out teeth as in Fig. 6, on an old saw blade and make

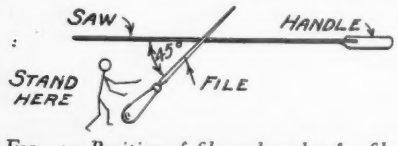

FIG. 4—*Position of file and worker for filing a crosscut hand saw.*

FIG. 5—*Position of hands and file in filing a crosscut hand saw.*

a few new teeth before starting on the saw that is to be fitted for use. This helps very much to fix in mind, and train the eye to judge and see the angle at which to hold the file. If the saw has teeth of uneven size, as is likely to be the condition with saws that are brought into the shop to be fitted, the pressure of the file needs to be directed against the big tooth right or left, so as to tend to bring the teeth back to a uniform size. When this needs to be done, the worker must be particularly careful to keep the file in the position shown in Fig.'s 5 and 6. If the file is constantly held in the correct position, the result will be teeth of a uniform shape.

One question that is often asked is:

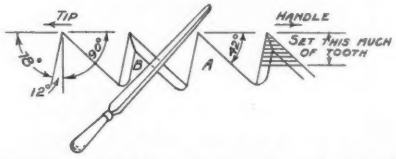

FIG. 6—*File the front edge of tooth A and back edge of tooth B with the same stroke.*

"How many strokes shall I take with the file to each tooth?" That depends on the number necessary to bring the tooth to the desired shape. As is evident in Fig. 3, the front of tooth "A" needs no work. Two strokes may bring the front of tooth "B" to line. Five or six may be needed to bring the front of tooth "C" and the back of tooth "B" where desired. The worker needs to use his eye and judgment as he proceeds.

After one side of the saw has been filed in the position shown in Fig. 4, the saw is turned end for end in the clamp, and the file held as shown in Fig. 7. Remember to point the file toward the handle, and incline it toward the tip.

It is good practice for a beginner at saw filing to file a few teeth from one side, then reverse the saw, end for end, and finish them from the opposite side. A careful examination of his work will show if the file was held at the proper angle. If not, the subsequent filing may be directed as revealed by the examination.

Setting the saw:

The amount of set to give a saw is determined by the kind of work that is to be done with it. Green or wet wood requires more set than dry wood. Pruning saws require considerable set. Saws that are used for general purposes on farms generally need more set than do saws that are used by carpenters. The purpose of the set is to make a cut or kerf wider than the thickness of the blade of the saw. Every alternate tooth is set to the right and the others to the left. So regulate the set

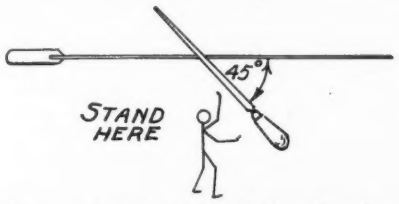

FIG. 7—*Second position of file and worker.*

FIG. 8—*Setting the saw.*

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APPRENTICESHIP TRAINING FOR TEACHERS OF EVENING CLASSES

JOHN T. WHEELER

During their senior year, all men preparing to teach vocational agriculture in Georgia are given three months of continuous training in selected communities under conditions of normal responsibility as teachers. From the standpoint of efficiency in training this work has proven very effective—especially with the handling of evening classes; from the standpoint of the students in training we need only point out that twenty-three men on June 2nd asked to schedule the apprenticeship practice for next year.

The apprenticeship training period of three months covers a full university term of 12 weeks. The winter term comprising January, February and March is mostly used, because within this period the vocational departments have their heaviest demands for evening class teaching. In fact most evening class work is concluded as well as begun during these months.

The state supervisor suggests and assists in finding appropriate practice situations. The best departments he has in the state become possible training centers. The teacher-trainer sees to it that selected centers offer opportunities for typical teaching situations and appropriate conditions of responsibility.

The following steps are taken in the "set up" of apprenticeship training:

1. Apprenticeship training is attempted only in counties and communities having experienced and successful vocational teachers who will assist in the training scheme.

2. Early in the fall the supervisor and teacher-trainer go together in each case to the county superintendent and the county board of education, and carefully explain the apprenticeship practice plan, and after discussing it until it is understood, a central practice school is selected within the county.

3. When the central school is located, a visit is made by the state supervisor and teacher-trainer in company with the county superintendent to the local school authorities and definite arrangements made for taking apprentices into the school as faculty members with outside assignments under the county board.

4. When evening class centers are determined upon, specific arrangements are made with the proper authorities in these centers for the apprentice's work during the winter. Apprentices are recommended to and employed by the local schools and placed on the job in the same manner as regular teachers.

5. Special attention is given to the item of transportation for the trainee.

Keeping Project Records

By W. T. SPANTON

Regional Agent, Federal Board for Vocational Education, Washington, D. C.

In my opinion there is only one way to acquaint ourselves with the inadequacies of our present practices in project record keeping, and that is to *attempt* to make a careful analysis of *completed project record books* within the several schools of a State. The reason I say "*attempt* to make a careful analysis" of these record books is that after examining hundreds of project record books during the last few years my own experience, as well as the experience of other agents of the Federal Board and State Supervisors, has proven conclusively that any analysis which approaches accuracy is absolutely impossible because of the glaring mathematical errors found and incompleteness of the records.

If any State Supervisor or Teacher Trainer doubts the accuracy of this statement, or believes it to be exaggerated, then it is up to him to show that this situation does not maintain by making a careful examination or analysis of the completed project record books that have been kept by the boys in the vocational agriculture department of his State. After this has been done I am quite sure that in a vast majority of States the supervisor will be convinced of the seriousness of the situation and will agree with the above-mentioned assertions. At least, this has been the unfortunate experience of all States that I know of where any systematic study or analysis of completed project record books has been undertaken. I am sure we will all agree that helpful suggestions and recommendations for the improvement of project record keeping and accounting cannot be intelligently given by State Supervisors or Teacher Trainers unless they know rather definitely the most serious and more common errors that are now being made.

As a result of my own observations and those of State Supervisors and Teacher Trainers where state-wide studies and investigations of project records and accounts have been made (particularly in the State of Ohio) the following list of common errors in project record keeping have been observed.

A List of Common Errors in Project Record Keeping

I. Opening Inventory.
   (a) Property not belonging to boy often entered.
   (b) Seed fertilizer, etc., purchased also entered in opening inventory and vice versa, and also in expense record.
   (c) Inventory values not given or too high or too low.
   (d) Farm machinery, horses, and horse feed used on project entered in inventory.

II. Labor Records.
   1. Team hours recorded instead of horse hours, and often omitted.
   2. Labor items not descriptive by jobs.
   3. Chore labor often entered daily rather than by the week or month.
   4. Such items as treating and cutting seed potatoes frequently omitted entirely.
   5. Entry dates often omitted.
   6. Charge for machine labor often omitted or inaccurate.
   7. Necessary jobs often omitted entirely.
   8. Mistakes often made in entering "trade work," and "contract labor.

III. Expenses Other Than Labor.
   1. Chemicals for spraying and treating seed often omitted.
   2. Seed, fertilizer and manure often not charged against project as an expense.
   3. Items not descriptive as "fertilizer" instead of "3-8-6"—"seed" instead of "seed-Early Ohios."
   4. Rent on land often omitted.
   5. Interest on operating capital often omitted.
   6. Farm equipment and machinery purchased also listed as an expense against project.

IV. Sales Records.
   1. Project products on hand (inventoried) also entered as sales.
   2. Entry dates omitted.
   3. Not all of products accounted for.
   4. No record kept of products used at home.
   5. Sales not itemized.

V. Closing Inventory.
   1. Products on hand inventories too high or too low.
   2. Products on hand also listed in sales record.
   3. Machinery equipment, etc. charged against project in "Expense Record" not listed in closing inventory and if so no depreciation shown.

NOTE: The speaker then took about twenty minutes to present to the group a chart which was an exact copy of a project record book kept by a student of vocational agriculture in one of the States in which many of the errors in project record keeping listed above had been made, and besides there were a larger number of inexcusable mathematical errors in addition and subtraction. As poor as this book was, the speaker emphasized the fact that this was merely a representative sample of our present practices in record keeping. The probabilities are, if the facts of the case were known, that these same errors are occuring in the record keeping practices of boys in other States where project record surveys and analysis have not been made.

I cannot too strongly urge, therefore, that State Supervisors and Teacher Trainers immediately recognize the seriousness of this problem and take

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INDUSTRIAL EDUCATION

Problems of the Trade School

By ELIZABETH M. FISH
Principal, Girls Vocational School, Minneapolis

While considering just what problems might profitably be brought before this body for its consideration, an article in the "Nation's Schools" of September was brought to my attention. This article quoted Mr. Frank Cushman, chief, division of trade and industrial education, Federal Board. As the address or monograph from which the quotation was taken was not given, I have no knowledge of the authenticity of the quotation, but whether correct or not it may serve as a chart for this discussion.

The gist of the remarks assigned to Mr. Cushman was as follows: "All-day trade schools are the most expensive and the least efficient type of organization in the field of industrial education of the vocational type. They absorb eleven per cent of our appropriations and cause ninety per cent of the problems.

They act as shock absorbers for the trades, absorbing some of the excess of young men who might, if there were no school, apply to become apprentices.

These schools do actually prepare young people for gainful occupations.

There are certain dangerous tendencies

to subordinate trade training to the high school and to
emulate the high school;
to use false standards for the selection of students;
to pay too much attention to the intelligence quotient as determined by mental tests;
to use the trade school as a vocational guidance factor;
to impose academic factors;
to develop into a high school."

From the topics suggested by the above quotation, I have selected for our discussion three. The first is introduced by this statement:

"These schools, all-day trades, do actually prepare young people for gainful occupations."

If the above statement were one hundred per cent true, there would be no difficulty in urging the case of the all-day trade or vocational school. For, in this welter world of unemployment, misfit employees drifting from one job to another equally unsatisfactory, insufficiently supported homes, any school that could insure training for jobs with a dependable guarantee of placement and success would be the first claimant upon the funds of the city and the most effective school in the whole system of public instruction.

All-day trade schools have set up as their measure of success, not the number of students enrolled, not the social nor remedial nor the general educational work which they in common with other schools do, but the percentage of their students who succeed in the work for which they have been trained.

We have faith that the vocational motives and the vocational methods already developed are producing results, because we must have material by which this faith can be tested, I am taking the liberty of presenting to you certain results in the checking of Minneapolis Vocational School which may interest you when you check the results in your own schools.

Vocational training like all other training is partly a process of elimination. All schools have worked out their own devices for selection of material but because of its singleness of purpose, a vocational school must eliminate its unfit material more closely than if it could believe that specialized training was good for the individual whether he got anywhere or not.

In the "school I know best of all" a very simple, compact organization is proving successful. The entire subject matter approved for the training courses, technical, related, and cultural, is grouped into units, each unit sufficient to require about ten weeks for the average student. Each ten weeks, there is a "shake down." Faster and more competent workers are pushed into the advance unit, slower dropped into the one below. Passing by subjects is eliminated. Readjustments are made by department consultations. In this way students of like caliber are brought together, each one advances at his own rate of speed, the work of each unit may be adapted to the caliber of the students forming that special group, slower students may take a longer time to complete the work of any one unit than the faster. Part time work in commercial and industrial plants is a part required of certain units, placement in permanent positions is a part of the eighth or last unit. This organization allows for constant individual adjustments, requires a constant sizing up of the pupil's ability and progress, and offers to each student a scale by which to measure his own fitness for the work chosen. Elimination of the unfit, whether that unfitness is due to lack of ability, lack of physical fitness, or lack of social understanding, becomes almost automatic. The try-out period between the first placement and the graduating ceremony many months later is another obstacle to be overcome, so that those who eventually get their names on the graduating list form a percentage only of the entire number who enroll for the work.

It is quite beside the question to state here that a big part of the effort of the school—perhaps too great a part—is put into the attempt to adjust those who find themselves not adjusted and that all of the machinery of home visits, scholarship committees, truant officers, courts, child guidance clinics supplying of necessities from teeth to baths, is used in the effort to adjust all who come to some vocation in which there is a chance of success.

But no matter what work goes into the failure group a vocational school must be judged on the two items:

what has been done vocationally for the group who graduate?
what has been done vocationally for the group eliminated before graduation?

A survey of the graduates of the past five years has just been completed by the coordinators of the three divisions into which the Girls' Vocational High School of Minneapolis is divided, and from this survey some light may be thrown upon the first question, "what is being done vocationally by a trade school for its graduates?"

This survey concerns itself with some seven hundred young people between the ages of sixteen and twenty-two or three, graduates from the courses of the school during the years, 1924 through 1928. By use of questionnaires, telephone calls and visits contacts were made with the following

percentage of graduates from each department.

GROUP 1
Dressmakers, milliners, cooks, junior nurses..75%

GROUP 2
Business or office employees.....85%
Telegraphers.....54%
Printers.....74%

GROUP 3
Department store employees.....97%

The poorest response came from the telegraphers, probably because much of that employment leads out of the city and graduates are scattered from coast to coast; the best from the sales group possibly because of the compactness of their employment and the close cooperation between the stores and school. There is no reason to believe that the group not heard from are any less successful than those who replied, so the percentages used in the appended tables are figured on the number replying rather than on the total number of graduates.

large so that we must check up on a second question, "what has the school done vocationally for the group who have not graduated?"

The second question is harder to answer because careful follow-up system covering those who leave school before graduation is lacking. I submit for your consideration the result of a follow-up of 236, summer withdrawals. Although the number considered here is small, yet subsequent checks of equal numbers indicate about the same percentages. This group was checked in several ways. First, by the term during which they withdrew, with the following result:

First term.....19.49%
Second term.....12.29%
Third term.....15.68%
Fourth term.....22.03%
Specials.....30.50%

Second check was for reasons for withdrawal with the following result:

Candidate for graduation.....13.98

TABLE SHOWING PERCENTAGE OF GRADUATES FROM YEARS 1924 THROUGH 1928 WHO ARE STILL IN THE TRADE FOR WHICH THEY WERE TRAINED

	Dress-makers	Milli-ners	Junior nurses	Cooks	Dept. store empl's	Office workers	Teleg-raphers	Printers
In the trade	59.82	51.42	37.25	62.5	73.01	86.03	80	60
In school	7.2		5.88	5.55		1.35		5
In other work	21.	30.	29.41	5.55	14.28	2.70	20	30
Married and at home	10.8	17.13	21.54	16.65	7.93	8.11		
Not living					1.58	.9		5
Unemployed	.8	1.42	5.88	5.55	3.17	.9		

IN TRADE—The salary charts have not been included here as wages differ so in different parts of the country. They show, however, good range of salary with the median salary rising with each year of employment, the average higher than the average of the group who are in vocations for which they were not definitely trained. The chart also shows great stability in employment, the most stable record being made by the business group which indicated 64% still in the first position held, 28% in the second, 7% in the third and less than one per cent in the fourth. The least stable group reported, dressmakers and milliners showing 37% still holding the first position in which they were placed, 36% the second position, 14% the third position, and 13% the fourth position.

IN SCHOOL—Those who now report themselves "in school" can be picked out as the most ambitious of the group, as in nearly every case, the school selected is an upgrading course, either the completion of high school; for the purpose of entering nurses' training or the University School of Business or other vocational courses.

IN OTHER WORK—The change to a different class of work seems to have been brought about by chance in some cases and by definite effort in others. The changes were from manufacturing or selling to clerical (this seems in many establishments to be considered a promotion, although the salary received may be somewhat less than that in the first position): from selling or sewing to telephone work or factory work. Many of the changes made required more training, as from selling to rural school teaching, from millinery to cutting plaques, from selling to stenography.

MARRIED AND AT HOME—This number does not include those who married and continued their work. The total number of this latter group is twelve, out of a married group of forty.

UNEMPLOYMENT—The unemployment of graduates is not a serious problem. At the time that this questionnaire was compiled, one dressmaker, one milliner, three general nurses, and one cook were unemployed. The cook has since got another position, both the dressmaker and the milliner offered placement problems when in school, the dressmaker because of slowness and the milliner because of wanting a type of position for which she was not personally fitted. Two of the three unemployed nurses had been marked "D" in the recommendation mark.

This record, considering that it is a record of young people between the ages of sixteen and twenty-two and three, that it was compiled during a term when unemployment in the city was offering a big problem, that it is a record of young people who come from homes which are not very influential in securing positions, shows clearly that the vocational school has very definitely trained these young people for positions in which they can succeed and that they have succeeded.

But the proportion of graduates to the entire number of people who enrolled for vocational courses is not

Fourth term students..... 5.50
Specials.....12.24
Total—31.72

This group is the group for which the school feels that it had done all that was possible. The specials are students who come in for certain things and leave when these things have been secured. The fourth term pupils not listed as graduates were far enough along in their trade so that they could secure positions.

Illness..... 1.77
Left city..... 6.36
Transfer and permits..... 8.88
Scholarship probation..... 1.27
Total—18.28

These were the unavoidables and included delinquents and students who could not possibly keep up with the work required of them, as well as those leaving the city, or too seriously ill to attend any school.

Going to work.....50%

A further study was made of this last group, the group which for economic reasons needed to get to work as soon as it lawfully could. This group was checked in three ways.

FIRST—The range of I. Q's. was from 126 to 70 with the median of 93. At least half of this group could not have been discouraged because of lack of mental ability.

SECOND—The school work record showed that 57 were doing at the time they left, acceptable school work, while 61 had unsatisfactory records, so that discouragement or lack of interest did not seem to be a factor for more than half of this group.

THIRD—The work records since leaving school showed, that although the entire group had been out of school for over two months, that between one-third and one-half had not been able to secure work, and were still looking for jobs. Over half of those who had secured employment had secured it in work for which they had had a partial training, the number increasing rapidly with the length of time that they had been in school. Those who had been in school for three terms or more were found, almost without exception, in the work for which they had been trained. A large number of those who left during the second term were also in their own work, while some who had been in school less than one term had evidently been directed into the type of work for which they had been preparing.

From these and other records, it seems possible to say definitely that this school prepares and places in work for which they have trained about one-third of the regular students who enter; that it prepares through special short time courses, such as the practical nurse and short power machine, about 12% more for which they have chosen and work in which they can succeed; that it definitely helps in choice of vocation about 25% more of the group who enter; that it seemingly fails to touch or to influence 25%.

Whether this record is commendable or not, whether such work can be recorded as efficient or not, can only be decided by comparing its results with results of other schools and by the wise decisions of those in charge of the schools. I am hoping that by laying these figures frankly before this National Convention that committees may be appointed to work out forms and methods of checkup for all schools, so that we may have some means of comparing our results, both for our own guidance and for the guidance of the powers that control our educational destinies.

Standards for the Selection of Pupils

"To use false standards for the selection of pupils.

To pay too much attention to the intelligence quotient as determined by mental tests.

To use the trade school as a vocational guidance factor."

Mr. Cushman is certainly right in classifying the statements above as "dangerous tendencies." The matter of the selection of pupils for vocational or trade training is the most difficult of the many problems involved in the trade school problem. These schools must not be overloaded with all the intellectual and physical misfits of the system. Nor on the other hand must only those students be received who have already been acceptably trained by life, by other schools, by their homes to a standard of behavior and a degree of skill which is already the equal of or higher than the industry under question demands.

After fifteen years of experimenting, certain standards are slowly emerging in all trade schools, not standards for the school, but standards for each vocation represented in that school. All tests—aptitude, achievement, mechanical ability, or mental—are of use in a greater or less degree chiefly as a means of recording, in a language which can be understood, qualifications of students. When such qualifications, of which the I. Q. rating is only one, become a matter of record setting up standards for various vocations, becomes something, at least, a little better than opinion and guess work.

For instance, a minimum I. Q. rating has been set up as an entrance requirement for the stenographic course in the Vocational School of Minneapolis. This minimum was arrived at after seven years of experiment during which students were admitted to the course from seventh, from the eighth, or from more advanced grades. Careful mental tests records were kept, and when the checkup showed that not one who had not completed the eighth grade appeared on a graduating list, and that no one with an I. Q. rating below a certain minimum had ever completed the training, the school set that minimum standard for entrance to the course.

The five year checkup mentioned above is now being used to test again the standards which have been approved.

The following excerpts from these reports may be of interest although they have not yet been incorporated into altered standards for either of the departments from which they are taken.

A limited sampling of cases of the graduates of the retail training department (salesmanship course) show the following results in a study of the relation between mental test ratings and promotion. (As the minimum wage law in Minnesota sets $12 as the minimum wage, any increase over that amount is for the purpose of this report considered a promotion. All students, whose reports were used, had held positions for a year or more preceeding this investigation.) They were grouped rather arbitrarily into five groups according to records of mental tests.

Of those with I. Q. scores	Percent of promotion	Average salary
from 80 to 86, 3 cases are getting, $12, and 1 case more	25%	
from 87 to 89, 4 cases are getting $12, and 5 case mores	55%	12.40
from 90 to 99, 6 cases are getting $12, and 10 cases more	62%	16
from 100 to 109, 2 cases are getting $10, and 10 cases more	83%	16.70
from 110 to 118, 0 cases are getting $12, and 2 cases more	100%	

"Accepting this limited sampling and this rough division of wages as being logical there is a marked tendency for promotion to go to those who have high I. Q. scores. Girls with academic ability which would make it possible for them to succeed well in high school, 99-118, have a good chance for promotion; the next group 90-98 shows a distinctly lower average wage but contains examples of conspicuous success; the third group 80-89 shows a more decided drop in the average wage and is quite unrelieved by any outstanding cases of success. We would seem warranted in concluding tentatively that for this group of girls there is opportunity for reasonably continuous employment in a variety of jobs mainly non-selling, with the prospects of wages staying near the minimum."

The median I. Q. for the entering group in retail training for some years past has been in the neighborhood of ninety-three. If future experiments carry out the intimations contained in the above table, these questions will have to be answered by the department. Is it advisable to give this training to those whose mental ability ranks below 90? Below 86?

On the other hand, of the eight graduates who lost their jobs, all were dismissed because of personal and character difficulties, not one because they were unable specifically to perform the work required of them.

The report from the dressmaking group shows quite different results. We have to choose there from only two groups, the graduates of 1927 and the graduates of 1928 because mental tests were not given to the groups prior to that time.

	1927	1928
Average I. Q. of those in trade	92.92	91.90
Average I. Q. of those in other work	93.8	98.3
Average I. Q. of those in school	100.	99.5

The question that bobs up from this report is "Should there be a maximum I. Q. rating?" The report would seem to indicate that those of higher intelligence leave the trade or return to school for further education.

The correlation between I. Q's. of this group and salary is even more interesting. At the time of the report, the salary of the girl having the highest I. Q. in the class of 1927 was $16, while the salaries of three having the lowest I. Q's. (and they were pretty low) were respectively $16, $14, and $13. In the 1928 class, the girl having the highest I. Q. was receiving a wage of $12 a week, while the girl having the lowest I. Q. was getting $19 a week. The I. Q's. of the two girls getting the highest salaries were respectively 96 and 83. There certainly seems to be no correlation in this group between success as measured by salary returns and classification according to mental tests.

To return to my original thought, true standards for selection can only be set up by experiment, by the constant checking and re-checking of results. Such standards can only be made effective through the cooperation and the research work of the individual schools, supplemented by that of the vocational and the educational guidance system of the schools.

But because standards are so much in the air, because there is no definite test which can be administered, and because there is little definite information, vocational schools must remain the only means for effective vocational guidance for the vocations with which they are concerned.

Our young people reach the age when they are privileged to join the great army of workers without ever having been brought into contact with real work. In a well developed junior high system they may have experimented with the simplest elements of some trades, but nowhere have they been faced with the acquiring of skill, even such rudimentary skill as is required in "jogging" for the book binding department. Nowhere have they touched the rush, the hurry, the concentration of real work as it is developed even in the school shops of the vocational type. Choice of vocations made with such lack of opportunity for choice must of necessity be subject to many changes. Shifting from course to course, changing from one type of vocation to another should be an accepted part of work of every vocational school. Records show that more than one-third of the pupils who enter a vocational school, who enter the course of their choice, revise that choice once or twice during the first year of their work. In this respect, all vocational schools are vocational guidance factors, in fact, the only effective vocational guidance factor within the range of their limitations possible in our present organizations.

Therefore, although we all agree with Mr. Cushman that these are "dangerous tendencies" we also know that they constitute the biggest of the 90% of problems which he assigned to us. Just what true standards are,

how far intelligence ratings should influence the selection of students, and what the function of a trade school in a vocational guidance program is, are matters still to be decided.

Trade Schools and Apprenticeship

Apprenticeship training is a subject which has received much attention from the Federal Board. In Minnesota legally and actually there is no such thing. The term survives only as a term in law designating the period when it is lawful to pay a boy or girl less than the minimum wage or in union circles where, due to the inability of the unions to enforce their standards, it has fallen into disuse.

The most fertile field in the world for propaganda is the public school system. It is there that the children of all men can be reached. It is there that, gathered together at an age when they can be most impressed by modes of thought and the social opinions of their associates, the thrust away from any work requiring skill of hand or strength of body has come. There is, in our whole school system, no encouragement for any child to consider trade apprenticeship as a possibility; no looking forward to trade training as a worthy ambition; no recognition of skill or the attainment of skill as something to be much desired except in the few tryout courses in the junior high schools, in the technical courses of the high schools, and in the vocational schools. The very existence of all forms of industry where the skill of the human body is a factor in so far as that industry is to be carried on by American boys and girls who have been trained in our American schools depends upon the development of vocational classes within our public schools. Hand skill and body skill must be developed early.

From my own experience, then, I would like to modify Mr. Cushman's statement and put it in this form for your discussion.

"They—all-day trade schools—act as the best feeders to the trade—sending into the apprenticeship and upgrading classes many young men who might, if there were no schools, be wandering around vainly seeking admission to some form of industry requiring no skill and no preparation."

In fact, I am not sure but what in the light of the recent developments in vocational education, we would not be justified in going farther and in saying that the only hope of ever developing any real apprenticeship system lies in the co-operation between the public schools and industry.

The Chicago system of co-operation between the high schools and the printing industry is certainly pointing the way to other experiments of the same kind.

A Minneapolis experiment in co-operation between the public schools and the retail stores of the city under the able leadership of Mrs. Cora Alderton and her assistants is slowly developing into something approaching apprenticeship. About a hundred and fifty girls each year are registered in the retail training classes. They are all carefully examined to see how nearly they approach certain known store standards in health conditions, in skills, and in social demeanor. Those who approximate the required standards are placed on "store lists" that is they are eligible for part time work in the various stores of the city with whom the school co-operates; those who do not are given special attention in the effort to bring them to the required standard. This attention means special work for foot difficulties, correction of physical difficulties, glasses, removal of tonsils, correction of bad health conditions, training in social usages, personal hygiene. The "work list" constantly varies, students being eligible and not eligible according to their progress in school and success in stores.

Actual trade training is given in the stores by the educational department instructors and by helpers on the job. This training is supplemented in the school through direct trade instruction and through projects which lead to research in textiles, in art, and in expression. The girls in their work experience, which is very carefully checked by both store directors and school authorities, get an experience in a great variety of jobs and in several stores. Frequently these girls prove specially valuable in particular stores and become regular Saturday extras. Experience is generally such that by the beginning or during the third term the girls have a decided preference for a particular store. The selection of a special store is encouraged and such girls are kept on a reserve list for one store and rarely work anywhere else. In general the amount of time spent in the actual trade work increases with the length of time the girl remains in school. The result is that by the time the girl has completed her training not only is her position, not just a position, in a certain store and for certain work assured but she is well acquainted with her supervisors, the systems of the store, the people with whom she is to work, and her faults and possibilities are known to her employers.

These experiments together with the many others which are going on all over the country show the possibilities of co-operation between large industries and the public schools wherever the schools are able and willing to work out programs that fit into the needs and the demands of the industries. The distance to which this co-operation may go depends almost entirely upon how far the schools are able and willing to adjust their organization and curricula to meet and anticipate the needs of the workers in the particular industry.

All-day trade schools do prepare a certain percentage of their enrollment for gainful occupations. The selection of students, the methods of developing schools which shall nearly enough approximate the school standards set up by parallel high schools, and yet not sacrifice to any degree their vocational efficiency is not one but a whole series of problems.

All-day trade schools are in a measure offering in their co-operation with industry, a substitute for the fast disappearing apprenticeship system.

Because the all-day school is really a battle-front for a new ideal in education, it does present 90% of the problems. But is there not a possibility that if we could reverse in Mr. Cushman's statement the 11% and 90% and announce that 90% of the appropriations were being used to develop the all-day trade, we might also be able to report that only 11% of the problems belong to them.

THE RELATION OF INDUSTRIAL ARTS TO TRADE AND INDUSTRIAL EDUCATION

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The subject of this discussion presupposes that there is a relationship between industrial arts, and industrial and trade education. I agree that that is entirely true. There is a very definite and positive relationship. This subject has been discussed on many occasions. Many have written about it and it seems to be constantly requiring our attention. Through our own experience, there are many facts in evidence to show conclusively that industrial arts are related to trade education. It is only possible, however, to convince persons interested in this subject who are willing to be convinced. It is now quite desirable that we all be of one accord with respect to this matter. Great difficulty in each field has existed because of the unwillingness to properly recognize the connection between these two important phases of education.

To properly present the items of value in connection with this topic, I wish to set up three definitions with which I am sure we will all agree:

1.—*Relation* is the state of being mutually or reciprocally connected or interested: the basis of association; the connection or feeling between two things or the bearing of two or more things on each other.

2.—*Industrial arts education* includes

those forms of training and study based upon industrial and trade pursuits and is designed to enhance the general intelligence and give vocational guidance in the field of industrial and trade occupations.

3.—*Industrial and trade education* is a form of education given in a school or elsewhere, the purpose of which is to fit an individual to pursue and recognize profitable industrial and trade employment.

Industrial education, and industrial arts education are complete units of our whole program of education. Both are similar in many respects. They are derived largely from trade and industrial activities and both have made large contributions to life and livelihood. While each has definite and separate objectives and purposes, they have so much in common, that they rightfully fall in the broad field of vocational and practical arts education. Each is supported by a fine historical background. We have every reason to be proud of the splendid work which has been accomplished in each field.

Relationship and family trees have since ancient times caused much difficulty and controversy. Many persons can point with pride to the famous family tree which carries their name. There, of course, may be instances in which a member of a family is not a credit to relatives, but even there, blood runs pretty thick and very few would stand up and have slurring remarks passed about a member of the family. This is my feeling with respect to those two kinds of education. We should be ever ready and willing to proclaim their various contributions to education and life, and furthermore, to defend either one whenever they are subjected to ridicule and criticism. Altogether too long there has been a tendency on the part of each one to criticize the other. Terminology has been a controversial matter for years and continues even today to be a matter on which there is a considerable difference of opinion in our own practical arts education circle. For the benefit of both, and in order that we may properly justify the existence of each and their continuance as one of the major parts of our program of education, it is necessary for all of us to reach a common understanding, and forever forget terminology as being of vital importance in this field.

Historical Background

A careful review and study of the history of industrial education and industrial arts will disclose the fact that these are not only the oldest types of education, but that they have travelled hand in hand since the savage and barbaric periods of civilization. In those times there is evidence that education existed for appreciation and trade purposes. While the fundamental motive in ancient Jewish education was religious, the second custom was instruction in some trade or other vocation. As early as 2250 B. C. records of apprenticeship show relationship between master and apprentice. To fail to give a boy instruction in some trade was to prepare him to be a loafer and a danger to the community. To make him skillful in a trade was to insure him a useful member to society.

The handicraftsman occupied a place of respect during the Homeric age in Greece. At a later date, mechanic arts were in ill repute and looked down upon. They continued to be fundamental to the material development that characterized the civilization of Greece. On down through history, during the age of the Benedictines and the Monastic schools, we find much attention given to practical arts education. During the development of the art of printing in the fifteenth century two fundamental ideas appeared: first, that sense impressions are the basis of thought and skill of knowledge; second, that the related idea of learning is by doing. While many believe that manual arts is apparently of recent origin, it was first spoken of in a book by Francis Bacon in 1605. John Comenius, the most famous educational writer of the seventeenth century, believed that instruction in words and things should go together. He was an advocate of the industrial arts and handcraft training, and so on, with many outstanding educators. In England do we find these types of education everywhere.

Thomas Budd, a Quaker who came to New Jersey from England in 1683, advocated a progressive scheme of education for Pennsylvania and New Jersey, which would include the teaching of the "art, mystery or trade that each child most delighteth in", and while there was no evidence of this program going into effect, it indicates the thought at that time. Rosseau in 1682 set forth the value of manual arts in education as a means of metal training and also made reference to learning a trade in a scheme very similar to our present part-time cooperative training.

There is much evidence during each of the following years to show that much thought was given nearly everywhere to similar programs of education. The New Harmony Educational Experiment in 1825, was another evidence of a combination of industrial arts and trade education. This was followed by the Manual Labor Movement where, in connection with trade training, practical arts education as a means of exercise and appreciation for the man of that time, was to be found. The Mechanics Institute Movement as well as the Industrial Arts, and Arts and Craft Movement, are all well known to educators. In these periods are to be found examples of both industrial arts and industrial education.

The beginning of the American manual arts occurred soon after the Philadelphia Exposition in 1876, with the establishment of the Sloyd and Russian systems of training. Continuing through recent periods which we all know of, are many outstanding examples of splendid work in the field of industrial arts as well as in trade education. It has been almost impossible to think of one without the other. While, perhaps, they have overlapped in many instances, the aims have been misdirected and exploited. Our history proves conclusively that these forms of education have, and are now, definitely related to each other.

Modern Aims and Purposes

Dr. A. A. Edgerton, formerly of Teachers College and now of the University of Wisconsin, states in one of his recent books: "Although industrial arts, manual arts, or the so-called prevocational courses, and strictly vocational classes do aim at entirely different objectives, nevertheless these are closely related insofar as a complete program for a democratic education is concerned." Our young men and women must be prepared for efficient service, but more than that they must be intelligent and happy citizens. Industrial arts courses are essential in a program of modern education, and as a matter of fact do occupy a very important place in our junior and senior high school curriculum. The general objective of industrial arts education is the same as that for general education. They are taught for their cultural and appreciative values. Such work has much prevocational value and occasionally does contribute directly to vocational efficiency in a limited way.

Industrial and trade education has as its objective fitting the individuals for useful employment in some industrial pursuit or trade. There is a likeness between the two kinds of work but we must not confuse the issue. Industrial arts may resemble, in their process, industrial education, but they do not as a rule result in specific vocational efficiency. In my opinion industrial arts, to be effective, must be affiliated with our whole program of vocational education, and consequently, with industrial education. We must, however, be able to clearly distinguish between the two. During the past few years, I have noticed a wholesome movement, particularly in large cities, to include in a division of vocational education all phases of Industrial, Commercial, and Home Economics Education, as well as Guidance and Placement.

Our old friend, manual training, now

generally referred to as industrial arts, has in some instances chosen to assume a new title, to rear up and proclaim vocational education as its province. In such cases we have been able to distinguish her from other forms of education only by her new hat. We must have more than a change of names. Our aims, purposes and objectives must be clean cut, definite and carry a positive meaning. While this feeling has not largely died down, there are some places, I am told, in which industrial arts is not even on speaking terms with industrial education. This is all wrong and is a detriment to the cause of this big movement.

Dr. R. J. Leonard, a great advocate of practical arts education, on many occasions during his life time, pointed out the splendid opportunity which every Superintendent of schools has to coordinate general and vocational education. The key position which the Superintendent holds in defining and establishing relations of vocational education to general education, is not unlike the position of the director of vocational education, which offers a splendid opportunity to coordinate industrial arts with industrial and trade education. I have found it well worthwhile to spend considerable time in promoting, developing and establishing a proper relation between industrial arts and trade education.

A Comparison of Evaluating Factors

Let us look at the standard factors used for evaluating specific courses in vocational education, which have been developed in accordance with sound principles, and after years of satisfactory experience. These are well presented by Wright and Allen in "Efficiency in Vocational Education". No program of industrial education is complete without all of these factors. It is also true that a program of industrial arts education can neither be complete nor efficient without standard factors similar to these. As a matter of fact, many of the factors referred to apply either wholly or in part to well organized courses in industrial education.

Although the subject matter will differ in the two kinds of work, in each instance it must be such as directly functions for the specific purpose in mind. Instructors who have been occupationally trained, are in many instances as greatly needed in industrial arts as they are in industrial education. Individual instruction for both kinds of work is quite necessary. It is always desirable to have each individual member of the group progress as rapidly as his ability will permit. Effective training for work is always best if given on a real job. It is absolutely necessary that all subject matter, in either case, be arranged in the most effective instructional order of learning difficulty. It is quite desirable that industrial arts students be placed in an occupational atmosphere and environment, as it is that the instruction should, to a certain extent, in industrial arts be based upon prevailing occupational standards.

Efficient use of educational procedures, methods and devices is always desirable for any kind of work. The three points in these factors which do not apply to any great extent in industrial arts, are:

1.—That instruction, in order to be effective, must be given to properly selected groups.

2.—That repetitive training should be given.

3.—That efficient provision be made for placement and follow-up.

With very few exceptions, therefore, we find that these same factors do pertain to each. Granting that there is a difference in the aims and objectives, we can readily see that there is a relation between the two kinds of work from the standpoint of evaluating factors which I have just presented.

Controversial Opinions

Students of education, or anyone who has given the matter any thought or consideration, will agree, I am sure, that industrial arts is not industrial education, and should never have been advocated as a means of training for specific employment. This was one great mistake that has been made, and it has been very hard to live down this feeling on the part of educators, many of whom still believe that industrial arts training is the only kind of educational work needed for preparation for life's work. The program of industrial work which followed the Philadelphia Centennial Exposition in 1876, had an immediate and far-reaching effect on American education. The manual training work of that day and much which has continued since, had as its objective the fitting of boys for the trades and industries. It was soon discovered by employers and representatives of labor, that this type of work did not contain vocational or trade values and for that reason it fell into disrepute with these groups. In some sections it has been difficult to prove that our present program of vocational education is different from the old manual training instruction.

While our industrial arts work has not had a true vocational objective, the instruction given has, in many instances, been far superior to much of our so-called trade and industrial training. It is gratifying to learn of the change of attitude, however, during the past few years and to find that the aims and objectives for each are entirely different. There should be no conflict between these two kinds of work, but each on a proper basis should be of great value to the other.

Differences of opinion continue to exist, however, which are not wholesome nor to our credit. As we recognize individual differences in pupils, we must recognize individual differences in cities and communities, and in the trades and industrial occupations that exist there. There is no reason why we should attempt to prove that shops should be the same size everywhere, and that building construction should be standardized. The size of classes, entrance requirements, kinds of courses and similar matters differ in different communities. The same is also true with regard to the ways and means of reaching the various vocational objectives. A separate building for each trade, with cooperative courses, is no doubt the solution in some cities, while in other places the all-day school with many trades under a single roof is the way to do the job, and again, trade training in connection with continuation schools may be the most feasible scheme of education for industrial employment. We, therefore, should hesitate in condemning any one scheme, or even to suggest one as better than the other.

In industrial arts education there is much controversy relative to the type of shops, kinds of work to be offered or the aims and purposes. Again, there is the question of how much time should be devoted to this type of instruction, where it should begin, and whether or not it should be made compulsory for all students. On all of these matters we have been unwilling, up to this time, to agree on the fundamental principles, objectives and methods which should exist. We should approach all of these problems in a scientific way and come to some common understanding relative to the many problems which confront us. It is quite apparent, therefore, as is evidenced by the various controversies that exist, that there must be a relation between the two kinds of work. It only remains for us to determine just what that relationship is.

Guidance as a Relating Factor

It is interesting to note the change of attitude with regard to educational and vocational guidance in public education. In many cities we find that guidance is definitely linked up with industrial arts and trade and industrial education. They often come under the same administrative authority. The programs of each are closely coordinated and definitely related one to the other. Guidance is a splendid connecting factor between industrial arts and industrial education. In practically every publication or book relating to

industrial arts, industrial, trade and vocational education, we find attention given to guidance. In public addresses it is quite the thing to point out guidance values and contributions which that service is making to all kinds of educational work.

Industrial arts provides general industrial experience of common value to all pupils. They offer exploratory activities as an aid in revealing interests, aptitudes and vocational possibilities, and further, give the opportunity for beginning specialized preparation for entrance into trade and industrial pursuits. Exploratory values cannot be over-estimated. With the varied program of industrial arts, students have a splendid opportunity for exploration and consequently acquire a rather complete knowledge of trade and industrial employment. As a result thereof, they are better able to make a wise and intelligent choice of both educational and vocational opportunities. This type of work is of immense value in providing real vocational service for the youth of our land. A choice of vocation is often attributed to the instruction which the students receive in industrial arts shops.

From the opportunity for self-discovery and the diagnostic values which are evident as a result of real trade tryout, there comes the recognition of ability, technical skill, aptitude attitude, and the proper vocational interest so necessary for students looking forward to trade and industrial training. We find boys with some training in woodworking choosing cabinet-making and carpentry. From our junior high school print shop, sheet metal shops, machine shops and electrical shops, come many boys to our vocational school, seeking an opportunity to prepare for a specific trade in which they have been interested and for which they show real ability. This is, to my way of thinking, real guidance, and I believe you will agree that there is considerable evidence of relationship between industrial arts, and industrial and trade training.

Industrial arts in Baltimore has been very helpful to us in our whole program of vocational education. We have found much of the work to be a real foundation for the trade work which follows. Printing is a highly organized industrial subject which has enhanced and developed appreciation for employment in that field. It has given a general understanding of trade processes, and under some conditions, has resulted in an extension of technical knowledge. Students who have come to us in our print shop, as well as other shops, after a tryout in our industrial arts courses, have been most successful in the work which they had undertaken in the vocational schools. For others, our trade courses have actually become an exploratory and tryout field.

Supervisory and Instructional Relations

As I have already pointed out, industrial arts and industrial education are both responsible to the same administrative head in many places. I believe that this is a wholesome situation. Where the same responsibility exists for each type, you will find definitely defined objectives and a continuous program of training in practical arts education from the elementary. junior and senior high schools into the vocational courses. It is therefore necessary, if both are to be successful, to set up a proper relationship. Supervisors in each field are meeting together regularly in order that there may be proper coordination of these activities.

We occasionally find, especially in the smaller communities, that the teacher of trade work is also carrying on industrial arts instruction. This is also true in some of our larger cities where we find trade courses in the technical high schools. As far as possible, the departments are separate and it is often necessary to use teachers for both kinds of work. This again is not a bad idea. It has much to do with having the teachers recognize the importance of both kinds of work, to understand the objectives and to know the real contributing values of industrial arts and trade education. There is, therefore, a relation between industrial arts and industrial education where work is organized as I have described it.

Selling Industrial and Trade Education

It has been necessary to sell and keep sold industrial and trade education to school officials, principals, teachers and students, as well as industry, commerce and the public generally. We are all sold, or should be sold to the importance of industrial arts in general education, and to the value of industrial and trade education, and I believe that we would all agree without hesitancy, that both should be provided to the extent of the needs of any community. Industrial arts is recognized as one of the important phases of general education. It has been included in the curricula of schools everywhere. Adequate funds have been provided for its maintenance. It has the approval of the general public, the school officials and the teachers. This has not always been true and is not now true of all trade and industrial education.

The right kind of instruction in the industrial arts field cannot help but point the way to the field of trade and industrial employment and set forth the value and importance of industrial education as a means of reaching that goal. Students are interested in a practical way. They learn to love the work they do. They become successful in a technical way and as a result they become sold to industrial education as a preparation for life's work. They sell their parents and the parents, representing the public, take a greater interest in this kind of education, and where we find the most progressive programs of vocational education and those most worthwhile, we find unanimous approval on the part of the public. Teachers are being influenced through proper industrial arts training to the necessity of providing a program of trade education whereby those who can profit most by this work can properly prepare themselves to meet the requirements of industry. In our city, 50% of our working population is employed in trade and manufacturing pursuits. For that reason, it is necessary to use every means at our command to sell this kind of educational work in the proportion to which that work is needed in the community. Where these values and purposes have been accepted, it is quite easy to see the relationship between these two kinds of educational work.

The Physical Facilities

As we study the needs of industrial arts education and industrial and trade education with respect to the entire plant—buildings, equipment, materials and supplies—we see immediately direct relation between these items for each kind of work. Wherever possible, it is desirable in both cases to have a building of adequate space for each kind of trade work or industrial activity, located for the most part accessible to the students and constructed wherever possible as far as shops are concerned, according to modern factory type, which permits an abundance of light. The light which comes through the sawtooth skylight arrangement, is very satisfactory. In each we need space arranged with partitions which are easily changed and all shops to be provided with the proper type of floors. The class rooms for each kind of work are of the same type and other facilities required of any modern school building may well be the same. The equipment for both kinds of work is similar. It agrees with commercial standards and we are always anxious to have a variety of kinds and makes. It is quite possible that some equipment in the trade shops will be more expensive and consequently more accurate and satisfactory in every way, but a lathe is a lathe no matter where it is used. The same is true of equipment in the woodworking shops, auto shops, sheet metal shops, printing shops and the like.

The tools needed for all kinds of work should be the best and those

used in the industrial and trade world. With very few exceptions, the variety in the industrial shop should be as great as the variety in the trade shop, and the same type in every particular. Materials and supplies used for one kind of work are the same in every instance as those used in the other kind. The quantity and variety may vary slightly, but wherever a particular item is used, it should be the same in each case. Therefore, as far as physical facilities are concerned, the relationship is quite apparent.

For General Education's Sake

Very few programs of industrial and trade education are complete without the related and non-vocational subjects. The related subjects math, science and drawing are absolutely essential. I believe it goes without saying that vocational educators realize the importance of English, civics, and industrial history. In brief, we should provide those subjects in our curriculum which make for the right kind of citizenship and some of what might be called the nicer things of life. It is quite as necessary that we provide for leisure time as it is for employment, and nowhere should these subjects, which are similar to those in general education, be overlooked. The socalled three R's which may be needed for the person entering employment are given as they have never been given before. The students understand thoroughly what they are, acquire them readily, know how to use them and do use them to advantage. There should be no argument on this point. English as a related subject in the printing trade must stick, otherwise craftsmen turned out will be of very poor grade. Mathematics for the machinist and carpenter must be taught in such a way that all students will be able to handle figures correctly, as they are needed in their daily employment. It is quite vital that all craftsmen should be able to read readily and comprehend all matters pertaining to them in the typed or printed directions.

As industrial arts is a definite part of general education, the academic subjects are included in the curriculum. As a matter of fact, these are the major subjects which each student has the opportunity to learn. Industrial arts subjects in the elementary, junior and senior high school are secondary. Academic work, properly coordinated with shop work, and it is occasionally so taught, is of vital importance to every boy and girl. Many times a student is able to understand mathematics as he has not understood it before, if it is required in the solution of some shop problem or project. In the print shop, English, and those things which constitute this whole phase of work, need to be stressed otherwise the instruction is poor and the results negligible. It is quite easy to understand that as the academic subjects are needed for both kinds of work, there is set up a definite relation between the two in this respect.

Present Trends

It is pointed out by Ricciardi and Johnson in "Objectives and Problems of Vocational Education", "that in the field of industrial and trade education there is much understanding and misinformation as to scope and aim. Not only do many educators and laity alike believe that industrial education and industrial arts are related, but that they are actually synonymous". It is gratifying to learn that an attempt is being made to clarify these misconceptions through a study of the important trends in industrial and trade education. It is pointed out that the development of the various phases of trade and industrial education has revealed that an adequate program cannot be realized unless the scope of trade and industrial education is widened to include prevocational education. Much of our industrial arts work, as I know it, is prevocational education.

It is further stated that vocational education is not possible for people who have not selected a vocation, and it is not feasible nor wise to use vocational classes for discovering vocational ability or for determining vocational choices. Industrial arts or other forms of prevocational education which are needed to do that job are, therefore, related to the next step in education which is trade training. This seems to be a trend that is most worthwhile. Nearly everywhere we find evidences of an attempt to set up definite aims and objectives for each of these kinds of work.

Cooperative education is undoubtedly a sound type of training that will predominate in the trade and industrial field. This calls for close coordination and cooperation between school, employment and home. Attention is being given to the new apprenticeship which will probably be accomplished through public school training. Adult education is assuming new importance and correspondence school courses are suggested as a means of trade and industrial education that is worthy of attention. Other important trends include local supervision, short unit courses, development of teacher training and skilled leadership in this field. Research is now closely demanding the attention of vocational educators, and trade ethics and morale are advocated as a desirable adjunct to this field of education.

The present trends in industrial arts education, as presented by Edgerton in this same volume, indicates rapid growth and development in this work. Perhaps the most marked improvement is the insistence in having all courses of study based upon clear cut needs and objectives. Everyone seems to be agreed that "profitable experiences are being provided to help students explore, discover and develop interest in and abilities for understanding, experiencing and managing industrial work." Some attention is being given to manipulative skill in order that there may be a certain amount of knowledge carried over into the trade work. Students are being carefully observed while at work, accurate records are kept of his relative successes and failures. With this information, they are directed into courses where some specialized tryout work can be done. Desirable changes which are needed have been "accompanied by improvements in the methods of organizing and offering shop and related activities, with the result that students now learn more purposefully, effectively and economically." The trends, therefore, certainly seem to justify the statement that there is a direct relation between these kinds of work.

Value of Proper Relations

With the establishment and recognition of proper relations between industrial arts, and trade and industrial education, I feel that we are at the door of a new day, which means clarification, standardization and understanding of this kind of work, especially from the standpoint of aims and objectives. This will do much to bring together the opposing factions everywhere and may even mean that this kind of practical education will be looked upon as a major part of our whole educational program, as valuable, if not more valuable, than the socalled fundamental subjects. All education, regardless of kind, is more or less related inasmuch as all education is fundamental and should prepare for citizenship and life.

Industrial arts and industrial education both relate to industrial and trade employment. Industrial arts is a part of practical education and as such relates to all forms of education. Industrial arts in their processes, at least, resemble similar types of industrial education. Boys and girls through tryout courses in our elementary, junior and senior high schools, find the trade classes which they desire and to which they are suited. In some instances, industrial arts form a firm foundation on which to build industrial preparation for employment. Industrial arts work actually often contributes to definite trade employment. Industrial arts training should establish aptitude, vocational interest and the value of technical skill, all of which are necessary in trade training.

Cooperative relations should bring

about a friendly feeling everywhere between these two types of work, and it is certainly quite time that they kiss and make up. Working together, it is quite possible to have a unified, progressive scheme of training throughout a school system. It is well to see that beginning education is always properly well-done as it is very essential to success in the work that follows. To secure harmony in our educational family circle is quite worthwhile. We should never overlook the possibilities of industrial arts as a sales agency for trade and industrial education. This seems to me to be quite enough to indicate the many ways in which these two forms of work are related and to actually prove that relationship should and does exist.

THE POSSIBILITIES OF THE TRADE EXTENSION CLASS IN THE SMALL NON-INDUSTRIAL COMMUNITY

L. K. Covelle
Supervisor of Adult Education and Industrial Training, Chickasha, Oklahoma

For the past four years as local supervisor of vocational education in Chickasha, Oklahoma, I have been trying to discover and develop possibilities for trade extension classes, in what might be considered a typical small town (18,000 population) of the middle west. For some time I had planned to attend this meeting for the purpose of securing information relative to this very topic about which I have agreed to give information.

Chickasha is located in a fertile and productive agricultural area. The major interests of the business men of the town are largely dependent upon agricultural production. Naturally the leading industries of the town are such as, are either closely or remotely allied to agriculture.

Perhaps the most important industry is that of the manufacture of products from cotton seed. Not many years ago cotton seed was considered a worthless by-product of the cotton industry, but now is an important factor in the profits of the cotton producer. In this industry little skilled labor is required. The mills are operated for the most part by negroes who during the dull season of the industry, from March until September of each year, put in their time assisting in cultivating the crop in adjacent area and doing odd jobs about town.

The industry next in importance is the Southwestern Light and Power Company, a part of the Insul properties. This company operates a Hydro-Electric plant, and a gas electric plant. These two plants produce sufficient electrical power to supply the needs of the homes and industries of the town and of the adjacent farming area. Just now the policy of the company is to expand their business through the construction of rural high lines for the benefits and conveniences of the rural population in surrounding communities. The company owns and operates vast fields of natural gas which supplies homes with heat and power to industries. Incidentally I should like to say, even though this statement is not germane to the subject under consideration that the Chickasha natural gas fields has a daily capacity of approximately 22,000,000 cubic feet.

Roger Babson in a recent discussion before the Oklahoma City Chamber of Commerce, relative to possibilities of future industrial development in Oklahoma, in brief, stated that "Industry is looking always for two things namely: Power and raw material." We have the power as well as the raw material; we need more people particularly those who are industrially minded to the future development of these possibilities. Come and help us.

The Southwestern Light and Power Company of Chickasha employs many skilled laborers in many different types of occupations which require technical information as well as skills in several fields. In the beginning it appeared that the company was satisfied to proceed in the old way of recruiting workmen who had neither necessary skills nor technical information, and depending upon the "breaking in" process or the "pick up" method. This was very costly to say the least and with the enactment of the workman's compensation law the loss of both life and property not only of the employee but the public served by the companies product became more and more apparent

This being one of the most important industries of the town, as local supervisor, I was eager to assist them in their educational program. At that time a need for outside assistance seemed necessary. I was given permission to organize evening trade classes with the workmen. Classes for linemen, blue print reading and general electrical work were organized but it did not appear to me that they were regarded by the management as of great value on account of the aforesaid requirements of skill necessary for them in their work and also other influences brought due to lack of knowledge on the part of the foremen and management. However, this experience brought about a change or attitude to the extent that the company has definitely committed itself to the policy of utilizing every possible agency for the future training of their employers. The Director of public relations and education requested the public school to conduct a foremanship training course on company time, for such a time as may be necessary to complete a comprehensive and thorough analysis of the foreman's and workman's job, keeping foremost at all times a program of education that will make the men more efficient and a safeguard to the public.

If complete job specifications with the resulting instructional material does not come out of this course it will be the fault of the school management and not the attitude of the company.

Another important industry is that of milling. I shall have to confess I have been unable to organize evening trades extension courses for this industry in spite of the fact in some towns such classes have been organized and successfully conducted. It appears to me that the men in Chickasha have grown up with the industry. Some men being with the company since the organization. Another factor is that the labor turnover is exceedingly low in this particular industry.

The Rock Island Railroad maintains in Chickasha a division point, a round house, general repair shop and back shops. From the beginning we have had excellent cooperation here, this was due, I am certain to the influence of a foremanship training conference conducted six years ago. As a result of this conference a very definite apprenticeship school was organized. The company provided splendid room and facilities for apprenticeship training in shop work. An old passenger coach was located in the yards, study tables and drawing tables were provided, also a splendid library was started. The related subjects were taught by properly trained and qualified high school faculty members. The shop courses were taught by shop foremen exclusively. These classes were upon a part-time basis with a maximum requirement of four hours per week of organized instruction. There was also employed an apprentice instructor who gave his full time to instruction of men while on the job, going from man to man in shops to see that he was following instruction and properly routed in his work. In addition to the part-time school for apprentices, evening courses were given to adult workers, such as locomotive air, arithmetic for shop men, sheet metal lay out, blue print reading and drafting for boiler makers and copper smiths.

We have been especially fortunate in the operation of courses for cleaners and dyers due to the fact perhaps that one of the most progressive men in the industry established contact with a group at the Oklahoma Agricultural and Mechanical College and National Association of Cleaners and Dyers were cooperating in developing courses in the industry. Again we were fortunate for the reason that the head of the High School Chemistry Department, was particularly interested in

industrial chemistry and made a study of their needs and gave them specific instruction adapted to their need.

We have had several classes with the trades men such as, blue print reading, estimating, rafter cutting, general carpentry work for apprentices, sheet metal layout, and courses for electrical workers.

I have observed in conducting these classes that the difficulty is not in the promotion and organization of classes but the securing of competent teachers; another problem that presents itself, is that of repeat courses. Especially is this true where the labor turnover is small. Men who seek promotion, often attending these courses for two or three years, must look to school management for further training. For example cleaners and dyers had a course in chemistry for three years then requested a course in economics, or some course that would assist them in the business management. Courses of this type should be made available for all men in various trades through evening school.

You must realize that the courses listed above by no means meet the needs of the many people employed in the various small industries in Chickasha. Outside of the industries listed many of the people work with tools and material and turn out a marketable product. These industries are typical of any small town: 3 bakeries, 3 broom factories, 2 compresses, 2 cotton seed mills, 1 cotton machine company, 1 ice plant, 2 machine shops, 1 sheet metal shop, 2 mattress factories, e upholstering factories, 3 planing mills, 1 playground equipment company, 3 printing plants, 2 laundries and 6 cleaning and dyeing plants. It will be readily seen that to continue an evening class that will meet the needs of the wide variety of trades and skills presents an interesting problem. Of the industries no one employs enough skilled trades now to justify the organization of classes from a standpoint of public management and per capita cost of instruction. The solution of this problem and every man who works in conditions to those described above must, whether he will or not, face this situation. It is more and more apparent to me as the program in Chickasha develops that the solution of this problem must result from a well developed program of part-time trade extension courses on a cooperative basis. In the use of the term cooperative basis I do not mean to refer to the cooperation of two boys on a half time basis making a full time hand but rather to the development of a spirit of cooperation between the employer of young men or youth and public schools as the recognized and legally constituted agency of democracy responsible for the training of the citizens for both citizenship and workmanship responsibility.

Chickasha therefore is developing a part-time school and instead of trying to keep all the boys in school all the time we are beginning to develop a favorable attitude toward the policy of securing a job on a half time basis or some other allotment of time, or any time convenient for the employer.

For those who will probably not continue their formal education beyond the period of the high school, you know as well as I how difficult it is to develop such a program that will meet the varying need of the individual student. It must be accomplished in a community like Chickasha through the method of individual instruction rather than group instruction. And by individual instruction I do not mean that the teachers responsible for such instruction, be required to sit with a boy for four clock hours a week despite the fact that four hours per week must be reported as a minimum requirement of federal and state statutes in order to get federal and state subsidy.

Individual instruction is more of the nature of directed effort or what the school master might term supervised study. Surely we must come to recognize the value of individual effort. Quite apart and aside from the responsibility of the teacher for putting in four hours per week of sixty minutes each with a series of questions in an effort to determine what the pupil has learned about the subject.

Employment Problems of Juniors

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which has a wage value) that a child of fourteen or even sixteen may do, offers a minimum of training for skill when carried on over any considerable time. Its education value lies largely in the character qualities incident to steady work, such as promptness, dependability, thoroughness, self-reliance and the like. And it may well be emphasized in passing that development of character traits should be and will be provided for in any well considered education program, since they are the outgrowth of right habits of work and play, acquired for the most part unconsciously. On the other hand, knowledge and skill derived from job experience is conscious and progressive and demands frequent change of work to keep pace with the mental and physical growth of the child. Purposeless, monotenous repitition of routine tasks may prove harmful for character development as well as worthless for vocational education.

Self-Trained Workers

Millions of self-trained workers, it is true, do get their vocational training on the job, or through a succession of jobs, and without other direction than their own initiative and the help and encouragement of the kindly persons with whom they may be fortunate enough to work. Whatever general education they get beyond the most elementary they garner as a by-product of life and work. Many of them meet with fair success; a conspicuous few with rare achievement, which for its very rareness may be disregarded in an analysis of the average. Many thousands, however, even in this relatively successful group, are conscious of a loss both in work and life, which they are forever seeking to make good through correspondence schools, extension courses, and other such helps. Their insistent and ubiquitous demand for the "job with a chance" is in itself eloquent evidence of the pinch of undeveloped abilities and unsatisfied desires.

Untrained Workers

Then there are the thousands of young people who never attain to any real vocational skill nor to an earning capacity which insures a decent living. They are unsteady workers and the work they do is irregular or seasonal in its nature. They are not inherently either lazy or stupid; only self-helpless and often wretched with a wretchedness begot of incapacity, which is further increased by the misery it spawns. They might have learned to do useful work if they had been caught—and taught—in time. They form a wide fringe that dips over into the very considerable numbers of the misfit, the unfit, the chronically unemployed and the unemployable. These untrained young people, drifting from job to job, from job to idleness, and all too often from idleness to delinquency and crime, are casually dismissed by the average citizen, as a problem of unemployment, an unpleasant phenomenon of the inevitable and mysterious economic cycle.

Educated Out Of A Job

Today an increasing number of educated or quasi-educated young people form another class of job-hunters who find satisfactory placement difficult if not impossible. Many of them have been through high school and some through college, where they have absorbed a variety of general information, refined tastes, and rather large if vague ambitions which point to a kind of work for which they lack specific ability or training. Like the youth, Godfrey, whom G. A. Birmingham describes in one of his whimsical tales, their "idea of a job is a salary". They haven't anything to sell which the occupational world wants. Placement for them obviously must be in the nature of education. On the job if possible, for they are usually in need of the salary on which they had their

eye and more in need of the practical work for which they have no eye at all. This job training must frequently be supplemented by formal instruction. Sometimes such misguided youths may be sent back to school to be re-educated. Not often, however, for that is too expensive in time and money, and besides they need practical contact with real work. Our common school teaching when not supplemented by trade, technical, or professional experience, has a tendency to cultivate tastes without discrimination, to instill desires without developing skills which aid in their satisfaction and attainment, and to dazzle the mind without truly informing it.

Another Group of Educated Failures

Still with an eye on the rewards desired rather than on the service needed, American youth flocks toward certain fields of work in numbers out of all proportion to available opportunities. Schools and colleges give too little attention to regulating supply and demand in the labor market. Few, if any, professional schools attempt intelligent regulation of the numbers they train. We seem to have lacked the sense of the courage of little Bolivia, which a few years ago closed its law schools for three years and forbade its young men to prepare for the legal profession during the proscribed period. Not only, they said, because there were too many lawyers, and too many of these seeking fame and fortune by political ways and wiles, but because there were also too few young workers training for the more useful productive vocations. America has something to learn from Bolivia's bold adventure in educational guidance.

Failures in overcrowded fields must find readjustment, that is, a new education on the job or in school or both, at the expense of years and money and disappointment, and often enough, of heartbreak and loss for a whole family. For it is a costly experiment to educate young people in the wrong way, costly to family and state and the individual himself. Wise and timely educational guidance would help prevent this social waste.

Twenty Million Young People Get Their Vocational Training—If Any—On the Job

A recent statement from the National Advisory Committee on Education estimates thirty-six million boys and girls in the United States between 10 and 24 years. Sixteen million of these are reported in school where they are receiving more or less adequate training. Another eleven million are reported to be gainfully employed. These, too, may be considered on the way to self support and responsible citizenship. Nine million more are reported unaccounted for. This may mean almost anything. It is safe to assume, however, that they constitute the least steadily or suitably employed of the thirty-six million, and that they are left largely to their own devices and to the hazards of fate as far as vocational training or other education is concerned. The report further states that ninety-one thousand minors were committed to penal institutions in a single year (1923), nearly one hundred thousand definitely bent in the wrong direction.

Let us consider these figures, which are practically accurate for our problem, from the employment angle. Sixteen million minors in school; twenty million, the vast majority of whom are minors, gainfully employed; nine million unaccounted for. It is fair to assume that a goodly part of the nine million now and again make some sort of a gesture toward a job, however casual or brief, and that they are rather continuous, if often, desultory job-seekers. These with the eleven million make twenty million young people whose chief problem is gainful employment. Twenty million young workers, therefore, who are getting their vocational training—if any—on the job, and such liberal education as falls their way incidentally from life and work.

The numbers alone indicate the size and importance of the employment problem to juniors. To persons interested in the growth of young citizens several pertinent questions at once suggest themselves. For example, how adequate is their training for self-support? How satisfying is their general education for life interests and character development? What chance have the twenty million whose chief concern is employment in competition with the sixteen million who stay in school? Which group best serves the needs of state and society? That educators, legislators, and industrial leaders have in recent years not only given serious and constructive thought to the problem, but have actually done much to meet it is evidenced by the diversity and flexibility of modern education programs and agencies set up to help the young worker. Part-time, trade, and night schools, extension courses, correspondence schools, vestibule schools, and apprenticeship training, vocational guidance and placement bureaus—all these, and many more agencies designed to serve more specialized needs, occur to the educator who keeps abreast of the times. He will note also with satisfaction provision for vocational rehabilitation; schools for the deaf and the blind and for cardiac cases; opportunity schools for the retarded and for the isolated; schools adapted to the foreign born and to alien and primitive peoples whose inherent handicaps need special consideration, as for example the negroes. A whole school system has been set up to serve the American Indian, which, in proportion to the size and difficulty of the problem, has made considerable headway in helping a primitive people to live and work in the midst of a complex industrial civilization.

All these diverse education programs have been formulated primarily with the young worker in mind, the junior whose total need the "regular school" does not meet, whose first problem is employment, and employment by no means in the majority of cases from economic pressure. All of these programs moreover recognize the job as a factor in education and seek to use it to that end. It is needless to argue, and especially before the members of this convention, that the education programs and agencies we have mentioned are adequate in number, distribution, variety and equipment to meet the needs of a major portion of employed juniors, much less of those seeking futilely and sporadically for employment—drifters, perhaps in large part, from the "nine million". There is conspicuous need of well organized vocational guidance centers, maintaining functioning contacts with industry and the schools which would offer a point of salvage for these drifters and serve as an aid in the readjustment of the more or less shifting eleven million who are gainfully employed.

The young worker may think his problem is one of employment. Society knows—or should know— it is one of education. A need of supervised busyness in which the emphasis is on learning rather than earning; on training that makes for skill; on habits that mould character. The years of youth belong to training, but it must be the *right kind of training*. It must be suited to the individual, to his abilities, aptitudes and rational expectations and to the occupational opportunities of society. People suffer from the wrong kind of education as well as from the lack of it. Right education in school and on the job demands intelligent guidance and supervised placement and follow-up.

Preparation and Use of Instructional Material

Continued from Page 9

has not the time to prepare and organize detailed material. This makes it necessary to take existing material and through conferences with those who are familiar with the particular field of activity as it is carried on in the community to cut our useless parts and add such material as is needed to meet the needs of the group.

To me there is little to be said on

the use of instructional material with the night school group. The interest and motive is there. We do not have to create it, all we have to do is to satisfy it. We are concerned only with the problem of building new adjustments and new abilities on the knowledge and skills which are already possessed by those who attend. Our main problem centers itself upon selecting the most usable material for the particular job and modify it according to the needs of the particular or community.

The responsibility of seeing that instructional material is prepared to meet the needs of the night school groups rests directly upon the shoulders of the supervisors and teacher trainers and primarily upon the latter. Sometimes it may be necessary for them to do it themselves but more often it should be their business to direct and assist the teacher in the preparation of the material. We learn by doing. No one will question the value derived in the preparation and organization of instructional material along the lines I have suggested. Moreover, we all know that when the teacher does it himself he will grow in proportion as he makes the effort to secure the best instructional material to use with those whom he is to teach. It is from this standpoint that the responsibility rests with the teacher trainers and supervisors. They must see that material already prepared is familiar to their teachers and that it has been adapted to the use of the group instructed. Local teacher trainers, especially, should recognize their responsibility and consider the preparation of instructional material an opportunity for service not only to their own community but throughout the state ana nation.

News Notes

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vested at the present time. He is familiar with parlimentary procedure, having been treasurer of the local F. F. A. chapter and secretary of the State Association of F. F. A. during 1928-29, also secretary of the local chapter during 1929-30. During 1928-29 he represented his local chapter in the State dairy cattle judging and public speaking contests. Young Hauser has been very helpful in developing the local chapter and State Association of F. F. A.

Malcolm King has completed three years of instruction in vocational agriculture in the Gaithersburg High School, Montgomery County, under the direction of Donald Watkins. During 1927-28 he grew 2 acres of potatoes, with an income of $75. During 1928-29 he completed a 400 hen project, with an income of $200, while during 1929-30 he has shown unusual interest in the study of markets. He has $200 productively invested at the present time, was president during 1928-29, and vice president during 1929-30, of the local chapter of F. F. A. He represented the local chapter in district and state judging contests during 1928-29-30. His average grade in all high school subjects has been above 85. He was chairman of the F. F. A. banquet committee in 1930.

Everett Weitzell has completed four years of instruction in vocational agriculture in the Accident High School, Garrett County, under the direction of W. E. Tarbell and H. W. Beggs. During 1927-28 he grew a fourth acre of potatoes, while during 1928-29-30 he has kept accounts on the home farm. He now has $210 productively invested. He was treasurer during 1928-29, vice president during 1929-30 of his local chapter of F. F. A. and president of the State Association of F. F. A. during 1929-30. He represented the local chapter of F. F. A. during 1928-29-30 in the State Dairy Cattle Judging Contest and the State Public Speaking Contest in 1930, in which contest he won second prize. His average grade in high school subjects completed has been 88. Young Weitzell has done outstanding work as the second president of the Maryland Association of F. F. A.

Donald Williams has completed 4 years' instruction in vocational agriculture in the Arundel High School, Millersville, Anne Arundel County, under the direction of S. H. Fadely and W. E. Tarbell. During 1927-28, he made an income of $60.50 on a Guernsey cow and calf project. During 1928-29 he made $280 on the cow and two calves, and during 1929-30, $100.80 on the cow and 4 calves. He now has $1,475 productively invested. He represented the local high school in the 1927-28 State dairy cattle judging contest. His average grade in all high school subjects completed has been 85. Young Williams has shown leadership in school and chapter activities.

Gordon Umstead completed 3 years of vocational agriculture in the Poolesville High School, Montgomery County, under the direction of P. W. Gates, G. H. Elmer, and C. M. Wilson. During 1928-29 he completed a 58 hen project with an income of $223.57, upon which he was awarded a gold F. F. A. medal by the Maryland State Poultry Association as the best poultry project completed in the State during 1929. During 1929-30 he has continued his poultry project and in addition kept records on the home farm. He has been active in the junior cow testing association. He now has $450 productively invested. During 1928-29-30 he has been president of the local chapter of F. F. A., which chapter he has represented in the State-wide Dairy Cattle and Poultry Judging Contests. Young Umstead was toastmaster at the local F. F. A. banquet held recently.

The luncheon program included, in addition to the initiation, brief addresses by President Pearson, Dean Patterson, and Dr. H. F. Cotterman of the University of Maryland, A. P. Williams of the Federal Board for Vocational Education, and Dr. J. D. Blackwell of the State Department of Education.

The officers of the Maryland Association of F. F. A. are:

President, Everett Weitzell, Accident; Vice President, Willard Easterday, Boonsboro; Secretary, Upton Quinn, Frederick; Treasurer, Talbor Williams, Millersville; Advisor, J. D. Blackwell, State Department of Education.

MICHIGAN

Michigan will have 203 schools with agricultural departments under the provisions of the Smith-Hughes Law for 1930-31.

The turnover of Michigan agricultural teachers for this year is 5.7%.

The second State Convention of Future Farmers of America was held at Michigan State College May 1 and 2. 67 Chapters with a membership of 1293 were represented in this convention.

Eighty schools participated in the Michigan state dairy judging contest May 1 and 2, 58 in the live stock, 89 in the grain, 74 in the potato, and 40 in the poultry judging contests.

Thirty schools sent contestants for the State F. F. A. Public Speaking Contest.

OHIO

Annual Judging Contest:—512 teams representing 153 high schools participated in the annual judging contest held at Ohio State University, May 23 and 24. The contests included General Live Stock judging, Dairy Cattle judging, Sheep judging, Poultry judging, Grain judging, Wool judging and Grade Identification, and Agricultural Engineering. In addition to the judging contests, the annual meeting of the Ohio Chapter Future Farmers of America was held on May 23. Honorary State Farmer degrees were conferred on Governor Myers Y. Cooper, Director of Education John L. Clifton and State Supervisor Ray Fife. State Farmer degrees were awarded to a class of 45 candidates by State Finance Director Harry D. Silver. The Ohio Bankers Association, the Ohio Farm Bureau Federation, the Ohio State Grange, the Ohio Chamber of Commerce, the Ohio Accredited Hatcheries, the Ohio Sheep and Wool Growers Association, and

Firestone Farms contributed to the $800 in prizes offered in the various judging contests.

Annual Conference of Vocational Agriculture Teachers:—The annual conference of vocational agriculture teachers for 1930 will be held at Columbus, Ohio, in connection with the American Institute of Cooperative Marketing during the week of July 7. Speakers will include A. P. Williams, W. T. Spanton and J. H. Pearson from the staff of the Federal Board for Vocational Education. Additional speakers will be secured from the staff of the Institute.

New Departments Approved:—Approximately 10 new departments of vocational agriculture will be added this year. The number of departments for the year will thus exceed 200 for the first time in the history of the work in Ohio.

Professor Stewart Completed Work at Teachers College:—Professor Stewart returns to the Ohio State University campus June 10 after spending a year in residence at Teachers College, Columbia University, where he completed his requirements for the Doctor of Philosophy degree majoring in vocational education.

Vocational Agriculture Teachers Stress Work in Cooperative Marketing:—Through the cooperation of the Ohio Cooperative Live Stock Shipping Association and state supervisors and teacher trainers in vocational agriculture, vocational agriculture students of Ohio have been offered unusual opportunities for practical work in cooperative marketing. As one of the high spots for the year 1929-30, 50 boys enrolled in the five vocational agriculture classes in Knox County, Ohio, drove 190 miles to Pittsburgh to make a study of terminal live stock marketing on April 8 and 9. The two day trip was taken as the final phase of their year's work. Students are thus given actual practice in live stock marketing processes as they are carried on in such terminal markets as Pittsburgh, Cleveland and Cincinnati.

MISSOURI

One of the outstanding projects in the field of home economics was the employment of an itinerant teacher for adult classes during the last half of the school year. Classes were held for six weeks duration at Lebanon and Houston. The enrollment reached 52 at Houston and almost the same at Lebanon, the State and local communities sharing in the cost. So popular was the work that applications have already come in for classes next year. During the past year major emphasis has been placed on the development of a functioning home project program in Home Economics.

Attention has been directed to the accomplishment of worthy objectives based on real needs and desires, rather than on either number or time. This change in point of emphasis has resulted not only in increased quality, but in number as well.

Each month teachers have sent copies of outstanding projects to the office of each Department of Vocational Education. At least one of these reports has been included in each monthly news bulletin throughout the year. This has helped to keep alive the interest in Home Projects. Supervisors have stressed projects when visiting schools, and they have been stressed in various conferences.

Summarized reports of home project work sent to the department at the end of the school year indicate gratifying development in all phases of home making. In home management alone at least twenty desirable types of projects are reported by four teachers. These four teachers selected alphabetically report thirty-three types of food projects, thirty-four clothing projects, twenty projects in House Furnishing and Decoration (including Related Art), six in Child Care, and six in Home Care of the Sick. An interesting development in foods is the increased number of projects dealing with food selection, of problems of food management, and nutrition.

Such reports indicate that students have been led to set up objectives in terms of their needs and interests, and that they have attempted to achieve them through Supervised Home Project work.

During the conference of Vocational Trade Teachers recently held in Columbia a careful search was made with Principal I. R. Anderson, Lathrop Trade School as guide for the "ideal trade teacher". About two hundred teachers attended this conference and the leader gave an excellent demonstration of the way a foreman's conference is conducted. Most of the discussion came from the group and the four ideals which served as points of discussion were Trade Skill, Trade Knowledge, Teaching Skills and Personality and Character.

The Future Farmers' organization has assumed large proportions in Missouri. At a State Meeting held recently in Columbia more than six hundred delegates from 85 schools were in attendance. A state program of work was developed and officers elected for the ensuing year.

Several new departments in vocational agriculture and home economics will be established next year made possible by the George-Reed fund and the encouraging thing about it is the demand for practical work far exceeds the funds available.

During the past year the vocational agriculture instructors have made a special effort to feature evening classes for adults, 81 such classes were held with several thousand in attendance.

NEW JERSEY

Two counties in the state, Bergen and Somerset, have recently requested the Vocational Division of the Department of Instruction to survey the needs for vocational instruction with a view of establishing county vocational schools. Contact committees have been appointed in each county, and specialists from the Department are working with the members studying the needs and facilities for industrial, home economics and agricultural courses. This survey will be completed this fall.

Vocational Division Issues New Publication

The Vocational Division has recently issued the first number of *The Foreman*, a four-sheet publication devoted to the state program of improving foremanship in industry.

The purpose of this bulletin is to give an outline of the foreman training activities conducted by the Vocational Division of the State Department of Public Instruction of New Jersey. Although this work in its present form is a comparatively recent development, foreman training in New Jersey is not a new undertaking. During the World War the state department carried on an active program in helping foremen of various industries to break in green workers. When the armistice came this program was no longer necessary and the greater part of the work was discontinued. Each year since, however, training has been carried on with one or two groups in various parts of the State. Three years ago the state department extended its activities in this field.

The primary aim of the work as now conducted is to help the foreman improve himself in the discharge of his supervisory responsibilities. The instruction is organized in the form of conferences led by men who have had wide experience both as foremen and conference leaders.

In most plants the foreman is commonly selected from the ranks of the workers, chiefly because of his skill or technical knowledge. He is usually placed in a supervisory position without any specific training for his new duties. His success is due to his practical experience, sound judgment, and good sense.

Something more than this is necessary. What the foreman needs, however, is not schooling but an opportunity to improve himself on his job. This can best be done by helping him to make a careful analysis of the actual problems that arise in his daily work.

A Course for Women in the Use and Care of Electrical Equipment

The Atlantic City Vocational School has this past year organized courses to enable women to deal more intelligently with problems growing out of the increasing use of electricity for domestic purposes. The first step in organizing these courses was, as in most vocational work, to find out as nearly as possible what situations the worker has to meet and the demands they make on her for skill and technical knowledge. With this in mind, the housewife who does her own work was questioned; the woman who employs help was consulted; and the employee was asked to tell what she needed. The home economist of the electric company contributed from her experience of what women want to know when they buy electric equipment. The "trouble man" reported the most common situations requiring his services. With information collected from all these sources, plus that gleaned from women's current periodicals, a course was organized. This course has been given for two terms in the Indiana Avenue Vocational School for Colored Women, and one term in the Girls' Vocational School at Illinois and Arctic Avenues.

The first eight lessons were given in the school. The women worked on practice material and then actually repaired a piece of equipment of her own. All work was tested. The ninth lesson was given in the completely equipped kitchen of the Atlantic City Electric Company. The demonstrator explained the use of the refrigerator. Next a cake was made with the Kitchen Aid, baked in the electric oven, and dishes washed in the washer. The water for dishes was heated with an electric water-heater.

The tenth lesson was given at an electric shop. Various types of washers were demonstrated, and the most common methods of extracting water were discussed. Electric refrigeration was explained by means of slides, and the class was given an opportunity to inspect a refrigerator. Vacuum cleaners of a number of different makes were shown and operated, and a demonstration was given on an electric ironer.

The interest of the women in these courses was shown by the excellent attendance at all sessions.

Floriculture in the Camden County Vocational School

Floriculture started as one of the initial courses in the new Camden County Vocational School located in Merchantville, New Jersey. The object of the course is to train boys for future employment in the greenhouses and nurseries, not only of Camden County, but also of south Jersey and the Philadelphia metropolitan area.

This work has been carried on now for two years in two greenhouses each 36′ by 50′ and a propagating house 8′ x 12′. There is also a shop 30′ x 100′ where the work that is usually done in a greenhouse headhouse is performed. About 60 sash and a half acre of ground for outside plantings complete the equipment.

All work in the shop, the greenhouses and outside is done by the students on the job basis. Instructors act in the capacity of greenhouse foremen giving out jobs that best fit the individual, checking the work and changing boys from job to job. Although the greenhouses are run on a commercial basis high type work is required and no student is rushed on his particular job. Great emphasis is laid upon accuracy and efficiency; the work is educational rather than strictly commercial.

Both cut flowers and potted plants are grown. The plants and cut flowers are wholesaled to local dealers and to the better retailers and wholesalers in Camden and Philadelphia.

While the boys are still in school, many of them find part-time employment with greenhouse men, gardners and nurserymen. At holiday time several rent stores where they sell flowering plants and cut flowers. Some of the boys have built small greenhouses where they grow plants for retail trade. Several have started into retail cut flower and decorative work. Although the course was started only two years ago, several boys have been placed permanently in good salaried positions in and around the Philadelphia metropolitan area.

This floriculture course has so prospered that materials have been purchased for a new section 26′ x 50′ which the boys of the school are now erecting under the supervision of the director of the school, Mr. J. M. Hall, and the teacher of agriculture, Mr. H. O. Yates.

Legislative Commission Surveys Public Education

A legislative commission to survey Public Education in New Jersey has recently made a comprehensive report that contains many important facts about the present status of vocational education in the state and makes recommendations for future improvement. Excerpts from this report are made herewith in the hope that they will be of use to friends of vocational education throughout the country.

Courses Offered by Industrial Schools

"One of the first tests of an industrial school is the relationship of the courses offered to the industrial life of the community and of the State. While many of the skilled trades are not represented among the courses given in the industrial schools (of New Jersey) those courses with the largest enrollments represent the skilled trades employing large numbers of workers."

"The industrial schools of the State provide a total of sixteen different trade courses, two specialized courses in drafting, and three in industrial chemistry. These are practically all of the unit trade type."

The Student Body

"A majority of the industrial schools reported an improvement during the last few years in the quality of the student body. A study made of the age and the last grade completed of approximately 4,300 pupils enrolled in the day industrial schools during the present school year shows that the pupils 14, 15, and 16 years of age represent approximately 87 per cent of the total, with 9 per cent 17 years of age or over, 4 per cent 12 and 13 years of age. The number under 14 years of age are accounted for in part by the fact that two schools maintain prevocational classes. The grade distribution shows that approximately 53 per cent had completed the elementary schools and from one-half to four years of high school work. Those who had completed the sixth grade, but not the eighth, accounted for 44 per cent, while the other 3 per cent had not finished the sixth grade. The study reveals a student body reasonably well qualified to profit by the industrial courses offered."

Teachers

"The teachers of industrial and related technical subjects are men and women who have been selected because of their superior trade and technical experience in industry. Under the regulations of the State Board of Education, all teachers of shop subjects must have an education equivalent to graduation from the elementary schools. Those who teach men's trades must have had eight years of approved practical experience including apprenticeship training in the trade to be taught, while those teaching women's trades are required to have had three years of approved practice in the trade to be taught. All teachers are required to complete 360 hours of professional training before they are eligible for a permanent license."

"Teacher training work is conducted by the State Department of Public Instruction in the form of pre-service and in-service courses outlined in cooperation with the principals of the various schools. The State Department recognized that the training of industrial teachers is not a problem that can be solved by college courses. This work is not designed to secure college credit, but to meet the practical needs of the classroom and the shop."

Courses of Study

"A majority of the schools have worked out carefully prepared courses of study based on local industrial practices. The State Department of Public Instruction has not written industrial courses for the schools, but has encouraged and assisted in their preparation. The courses in many of the schools, especially those having advisory committees, are revised from time to time to meet changing industrial conditions. Several of the schools have made outstanding contributions in course building."

Record of Graduates

"From this survey and a number of local studies it is evident that from 75 per cent to 80 per cent of the graduates of the more favorably situated schools find employment in the occupations for which they had been trained. These figures compare very favorably with the results of similar studies in other states, but it could be improved upon, in several schools, by the establishment of better placement facilities. The placement of the graduates of the schools in desirable positions is also dependent upon industry's familiarity with the industrial courses and their confidence in the quality of the training provided. It is just here that trade advisory committees can render valuable help."

Relation of the Schools to Industry

"Several of the schools have established most effective relationships with industry, others have almost entirely neglected this important responsibility. The success of an industrial school is dependent, to a very considerable degree, upon its active relationship with the industrial life of the community. This is made apparent when one considers that the standards and practices of the schools should be taken from industry and should be frequently modified to meet changing industrial conditions. One of the most satisfactory ways to develop such relationships is by means of trade advisory committees. While the New Jersey law does not require such committees, the State Department of Public Instruction has consistently recommended their appointment. Both employers and labor have rendered the schools invaluable help by service on such committees and have contributed in many other ways to their growth and efficiency. The foreman training program conducted by the State Department of Public Instruction has also done much to develop closer relations between the schools and industry. The assistance of industry is so necessary to the effective administration of industrial education that every school should, through trade advisory committees or some similar agency, give careful attention to this problem."

Day Industrial Schools for Girls

"In the beginning the vocational work for girls was largely confined to home economics with minor courses in one or two cases of the unit trade type. It soon became evident that the majority of girls, on leaving school, entered commercial or industrial employment and that they needed courses that would prepare them for commercial and industrial occupations. As a result, the schools whose primary aim was instruction in home economics have prospered in proportion as they have made a place in their organization for courses designed to enable their pupils to secure employment. Out of the situation two types of schools are developing—the trade department in the home economics schools and the separate trade or industrial school."

"There exists some prejudice against industrial education for girls and their occupational training is further complicated by the fact that the number of skilled trades in industry open to girls is limited. The field is gradually growing, however, and the success of one of more of the present schools in the state is an indication of what can be accomplished when the problem is seriously attacked. There is immediate need in the State for a number of such schools."

NEW YORK

Training Apprentices To Do the Job

R. D. Fleming
New York State Education Department

Theory plus practice makes a well-trained apprentice is a slogan which the Syracuse public schools have followed in a unique system of apprentice training which has been carried on in day school classes since its inception in June 1927. At that time two classes were started, one in brickllaying and the other in painting and decorating. Since then the work has grown so fast that classes in carpentry, plumbing stone cutting, machinist, inside electrician, factory maintenance electrician and electric meter testing have been added.

Apprentices attend school four hours each week on the employer's time. This has been a great influence for good attendance. In fact, illness is the only excuse for absence; otherwise a fine is imposed on the apprentice and he must make up the lost time before he gets his next raise. No class spends more than two hours a week in practical work, the remainder of the time being devoted to subjects related to the trade as science, drawing, trade mathematics, etc.

In the practical instruction which constitutes two hours a week the apprentice is given a project to do. The young bricklayers, for example, have built an entrance to the school office, laid the walls, constructed a Roman archway, and built a brick bench or seat. The apprentices of the stone cutting class cut the stone for the arch on which they carved a shield bearing the letters S. A. T. A. (Syracuse Apprentice Training School). The project also included the work of the electricians, carpenters and painters classes of the school. The work was so well done that the company which donated the materials for it frequently take prospective buyers to the school to inspect the high quality of the craftsmanship.

A project of special interest at the present time is one in ceiling decoration, imitation marble walls and woodwork which is being carried on by the painting and decorating class. In order to give all the apprentices a part in the finished project, the instructor gave to the first-year apprentices the task of removing paper from a 9'x9' room and preparing the walls. This included plastering, sanding, sizing and cleaning up in preparation for the work of the second-year apprentices. The work of that group consisted in sand papering ceiling and walls, mixing colors and laying out panels. When the room was finished, the marblized walls and harmonious woodwork gave to it a beautiful appearance.

While the work of the plumber apprentices is not as artistic as that of the painters it is none the less important. In one end of the plumbing laboratory of the Syracuse Apprentice School the frame work of a small section of a house was constructed where the first year apprentices are taught to rough in the plumbing, in this way learning how to caulk a joint and how to use proper fittings. They installed melting furnaces, sink waste line and other equipment. They have also been taught how to make solder and beat lead.

The electrical apprentices or inside wiremen are each given a project of drawing a floor plan of houses that appealed to them and selecting their own method of wiring it, indicating on the plan the outlets, and the location of all other electrical equipment.

With this purpose in mind, each student was given a number of plates showing photographs of houses each with a small plan attached to it. The apprentice would select a plan and style of house he favored and make a large scale drawing of the plan. This brought into play originality because the apprentice had to do all the planning, selecting and installing of an entire system of electric wiring work. It also helped in making him familiar with various styles and types of fixtures and other equipment as shown by the catalogs.

In carpentry classes as each appren-

tice enters he is required to make first a pair of saw horses for his own use in school. This project gives him his first use of the steel square. He then makes a platform 4 feet square which requires him to lay out and make up a box sill, space joist and square up a building. The next job is to lay out and cut bridging for the platform or section of floor. The sub floor is then laid over the joist. The next operation is to put a "shoe" around the platform. This is also laid out for studs, for a door way and window frame. Four corner posts are made up and placed and a plate laid out for the top of the studs.

The houses are now ready for the sheathing which is nailed directly to the studs. After the sheathing is nailed in place, the roof is framed, a plain gable, snub gable or roof with valleys as the case may be.

Each apprentice next makes and sets one door and one window frame. He makes a pair of sash to fit the window, and a door which he fits, hangs and locks in the door frame.

Machinists apprentices receive no practical work in school, their work in class being confined to such subjects as trade mathematics, drawing, science, safety hygiene, etc.

In addition to apprentice classes, the city of Syracuse through its department of education, has classes in evening trade extension for journeymen workers only. This includes extension work for plumbers, painters and decorators, and blue print reading for carpenters. These classes meet two evenings each week. Classes in acetylene and electric arc welding have recently been established which meet for 4 hours per night, five nights per week, a different group attending each evening.

New York Training School in the Field of Textiles

With the laying of the corner stone of the new textile high school in New York City early in March came a recognition on the part of school authorities and the general public that secondary schooling is important to those industries which need well trained young men and young women to act as assistants in their staff organization. It is to meet this growing demand that the textile high school is moving to new quarters as soon as building operations are completed, according to a communication received by the New York State Education Department.

The technical high school does not attempt to do the work of the technical school of college grade. Its function is to train students in mill, shop and laboratory practice and in applied science, applied mathematics, in addition to general education. In brief, it fits them for what industry calls today its junior engineers.

While most technical high schools are polytechnic in type the textile high school is monotechnic in that it deals with the vocational and technical work of a single industry in the fields of production, distribution, art, testing, dyeing and others. Only in the larger cities in centers in which the textile industries are important, like New York, Philadelphia, New Bedford and Lawrence, can schools of this type be maintained. A school that can devote itself entirely to the many phases of a single industry is thereby more effective than one that attempts to cover many.

No textile school in the world offers instruction in all branches of textiles because no one community is committed to their manufacture. For example, the Fall River and New Bedford textile schools offer courses in cotton but not in silk, woolens or worsteds. Lawrence and Lowell offer courses in cotton and wool but not in silk. The Philadelphia school was designed to meet the needs of the local silk and wool industries, particularly of the designing and dyeing departments. On its part, the New York City Textile High School aims to meet the educational needs of the textile trades of New York City and will not go afield in order to transplant courses from other schools.

New York City is the textile center in this country with a selling office of every large mill located there. As the selling office dominates style design and markets, the textile high school will consider the marketing of textiles as one of its leading courses. This subject should include correspondence, filing, accounting, salesmanship, advertising, and display of cotton textiles.

The buying and selling of textiles involves questions relating to dyeing and finishing. This presupposes a knowledge of chemistry and dyeing which in turn must be taught to young men and young women who will enter the industry as assistants or junior engineers.

New York is also the leading style center of the country and while fabrics may be manufactured elsewhere the designing is done in the selling offices located in New York. This creates a need for courses in designing and printing woven fabrics and instruction in the use of such fabrics for home furnishing and interior decoration. There is also a demand for a course in design and manufacture of clothing. This in turn involves a study in the use of clothing and devices which bring out style values and possibly hide weaknesses or defects. To be a stylist in the field of textiles requires the ability to know what other countries are doing, notably France and Germany. This presupposes a knowledge of technical French and German and a knowledge of fabrics for clothing purposes. A drapery costume course would furnish part of this instruction.

Finally, there are many small mills and manufacturing plants which require operators and millrights versed in machine and electrical work. A course which will furnish training in power-plant operation, machine and electrical work for cotton mills should be offered to young people who go into these small textile plants in the capacity of junior engineers.

A well-rounded curriculum for the new textile high school will include courses in 7 distinct fields which may be summarized as follows:

1—Marketing—buying, selling, advertising, etc.

2—Operation and care of textile machinery—electrical, mechanical, repair, supervision, mechanical drafting.

3—Chemistry and Dyeing—chemical and biological testing, analytical and industrial chemistry, economic biology.

4—Interior Decoration—layout of homes, architecture, artistic use of decorative textiles and upholstering.

5—Designing of Fabrics—the theory and technique in designing woven and printed fabrics.

6—Costume and Wearing Apparel—theory and practice of draping both in paper and fabrics; history of costumes.

7—General Textiles—combines high school academic and textile subjects; trains for leadership in the industry or admission to higher textile schools.

Trade School Graduates Follow Trade Lines Studied in School

A study of day trade schools in the State of New York which has just been completed by the Industrial Education Bureau of the State Education Department shows that nearly three-fourths of 2060 students graduated in 1929, followed the trades in which they received instruction. Of this number over four-fifths (86.6 per cent) were boys. For boys 25 trades were represented, and for girls 6 trades. The study embraced 13 cities of the state in which day trade schools are maintained.

From the records of 2000 boys who graduated during the past year it was found that approximately two out of three entered the trade in which they had received instruction. In this respect the girls schedules showed 100 per cent return, due to the fact that girls completing trade school courses must serve 6 months in their respective trades before receiving their diplomas.

On the question of earnings in male trades the study showed a weekly wage spread of $18 and varied from a $12 minimum to $30 maximum in the twenty-five trades reported. Not only

was the range of wages between various trades a wide one but the range within the respective trades in different cities of the state was also correspondingly wide. The spread was especially marked in the trade of automobile mechanics, which in point of numbers engaged was the second largest trade reporting. In this trade wages varied from $12 a week in one city to $30 in another.

In contradistinction to the boys earnings, those of the six trades in which girls engaged, showed a spread of only $2 a week. These trades were all followed in New York City. The weekly wages varied from $14 to $16 a week, beauty culture and dressmaking being the two trades paying the top figures.

Considered by number the electrical trade led the list with 766 reported as graduates of that course, with 65 per cent of the number following the trade. Automobile mechanics was next in numerical importance with 276 graduates having approximately three-fourths of the number following the trade. Next in importance were the woodworking trades with 187 graduates of which number 65 per cent were in the trade. Machine shop practice with 177 graduates was slightly smaller than woodworking and had only 57.6 per cent of the graduates entering the trade. Painting, fifth in number with 170 graduates, topped the list with 92.2 per cent for those in the trade. Plumbing reported 100 graduates of that course with two-thirds of the number in it.

Of the 19 boys trades remaining the number of graduates varied from 65 in commercial art to one each in foundry work and chemistry. In this group commercial art had the worst record with only 43 per cent following the trade. Trades paying less than $15 a week numbered 10 as against 15 trades paying $15 or over.

The courses were usually two years in length except in one or two cities where 4 year courses were given. The practical instruction was along the lines of a single trade but the pupils also studied such related subjects as trade mathematics, trade science, trade drawing and such cultural subjects as English, history, geography and hygiene. Courses of this nature were designed to meet the needs of young people who could not devote more than two years to school attendance after graduation from grammar school.

Within the past year eleven day trade schools in the State of New York have been ranked, under a ruling of the State Board of Regents as two year industrial high schools and one as a four year industrial high school. This step marked the culmination of the State's 21 year experience with day-trade schools. Under this plan such schools may offer one, two, three or four year courses to pupils who have completed the work of the 8th grade of the elementary schools. The courses of study must be approved by the State Education Department and approved equipment and facilities provided. The school must be in session at least 6 hours a day with half the time devoted to trade subjects, one-fourth to related technical subjects and the remainder of the time to academic or general subjects.

In commenting on this study Dr. L. A. Wilson, assistant commissioner for vocational education, New York State Education Department said: "Within the past decade our day trade schools have shown an encouraging growth, the enrolment more than doubling until the present year will show close to 15,000 in attendance upon these courses.

"It is especially encouraging to note that at least two-thirds of the boys who graduated last year enter the trades in which they had received instruction. This is a large proportion especially in view of the fact that it does not include boys who go into related trades nor the number who continue on in school work".

The New York State Education Department has arranged through the courtesy of the General Electric Company to broadcast from station WGY a series of weekly talks on "Choosing a Vocation". These talks are being given by outstanding leaders in a number of professional vocations. Each talk will be separately printed, together with information in regard to the requirements for admission to the professional schools, lists of reading references and lists of the professional schools of the State. It is hoped that this series of talks will result in more attention being given in the junior and senior high schools to vocational guidance. This program may be continued next year, with additional talks on other professions and on the major occupations in agriculture, finance, business and industry.

The Board of Education of the City of New York has allocated for the coming fiscal year the sum of $13,320,000 for new vocational and continuation school buildings. The board also authorized the purchase of a site for the Central Printing Trades School. The new Textile High School costing approximately $2,000,000 which is now under construction, will be ready for occupancy next February. The Brooklyn Trade School for Girls costing approximately $1,000,000 and accommodating 1,600 girls, will be completed sometime during the summer months. Excellent facilities for the East Side Continuation School will be provided through the remodelling of a 32-room elementary school building.

The new Burgad Vocational School, Buffalo, costing approximately $1,000,000, planned to accommodate 11,000 boys, will be ready for occupancy early next fall.

The Legislature appropriated $300,000 for a new industrial building at the Oswego Normal School.

The Division of Vocational and Extension Education has recently made a survey of vocational education in the City of Syracuse. This survey was made upon the request of Mr. Alverson, Superintendent of Schools. The Division has also been asked to cooperate with the Advisory Board for Industrial Education of New York City in making a study of the vocational education needs of the City.

The University of the State of New York has announced its summer course in Vocational Education and Guidance to be held at Oswego State Normal School from June 30 to August 8. This announcement contains information concerning:

COURSES FOR SUPERVISORS AND DIRECTORS OF VOCATIONAL EDUCATION leading to supervisors' and directors' certificates.

COURSES FOR TEACHERS OF INDUSTRIAL SUBJECTS, leading to permanent vocational teachers' licenses.

COURSES FOR TEACHERS OF VOCATIONAL AND EDUCATIONAL GUIDANCE SUBJECTS, leading to limited and permanent vocational guidance certificates.

REPORT ON INDIAN SCHOOLS

A meeting of the representatives of the New York State Departments of Education, Health, Law, Social Welfare and Mental Hygiene will be held shortly for the purpose of formulating plans for a survey of the general and special needs of the Indian children of the State. Particular attention will be given to the educational needs of the Indian youth who live on the reservations.

Marked progress will undoubtedly be made during the coming year in the education of the Indian children. The appropriation for salaries of teachers in Indian Schools provides for salary increases for over sixty per cent of the teachers. The sum of $1,800 was also appropriated for the employment of a nurse-teacher who will devote her full time to the health education of Indian children. The last Legislature also provided, through a special bill, an appropriation of $2,000 to pay the expenses of Indian children who desire to attend the normal schools. It is expected that a number of Indian youths, who will be graduated from high schools next June will enter the normal schools in September. The Legislature, through a special bill, also provided for the transportation and tuition for all Indian children who desire to attent high schools or vocational schools maintained by the school

districts of the State. This provision will enable a considerable number of the older children to attend the high or vocational schools immediately adjacent to the reservations.

The outstanding needs of the Indian schools are larger appropriations for supplies and equipment and a new school building on the St. Regis Reservation. The Department has recommended for several years larger appropriations for these purposes. It is hoped that the Legislature will give favorable consideration to these items next year.

Conference Leadership Training in New York State

(From Vocational Education News, Albany, N. Y.)

Conferences Since 1908 Reports Utica Knitting Company

Ralph W. Jones

Vice President Utica Knitting Company

The faith of the Utica Knitting Company in mill councils dates back to 1908 when, under the slogan of "Quality, Quantity and Savings in Waste", the foremen of the Highland Mill were called together by the superintendent for a series of monthly meetings, a practice which has been continued to the present time.

After a dozen meetings the superintendent began to run short of material and changed to the business type of meeting with the following routine: report of accidents with cause and precautions taken; monthly cost reports; examination of mill products.

A record is kept of the proceedings. In almost every instance recommendations offered at meetings have been made effective by the company.

In 1916 the "mill council" was extended to other plants of the company. In every instance, the company reports, the meetings have made for greater cooperation, confidence, friendship and efficiency among the men. The foreman value the chance to be heard and loyally support any policy decided upon by the management.

As a result of the meetings the executives in various plants of the company have become more helpful to each other. They are willing to make suggestions and assume responsibilities. They have learned to understand the common problems of the industry. Best of all, they have developed a team spirit which enables the company to serve its customers in a way that otherwise would be impossible.

Conference Leadership in New York State Has Ten Year History

Dr. L. A. Wilson

Assistant Commissioner for Vocational and Extension Education

Conference leadership in the State of New York covers roughly a span of ten years. It took its inception in the summer of 1920 when Charles R. Allen of the Federal Board for Vocational Education conducted a special course for the training of a selected group of minor plant executives at the summer session of the Oswego State Normal School. Ten industrial concerns sent representatives to attend this six weeks session.

In cooperation with the Federal Board and the New York Employing Printers Association the Division of Vocational Education, early in 1922, conducted a series of meetings for superintendents of printing plants in New York City, in order to demonstrate the need for better foremanship. During the same year the Chamber of Commerce of Gloversville, New York and the Employers Association of that city sent a selected group of foremen to attend a series of conferences at Gloversville, conducted by the Division of Vocational Education of the State Education Department.

A course in the Training of Foremen as Conference Leaders was given at the Oswego State Normal School summer session of 1924 by G. S. Saunders, State Supervisor of Industrial Education of Maryland.

The intervening years were spent in attempts to secure the establishment of foreman-training work as a branch of vocational education in the State Education Department. By the beginning of the fiscal year July 1, 1926, these efforts had met with success and the work was started on a state-wide basis with the employment of a full-time trained conference leader.

At the outset it was decided that the policy of the Department should be to train conference leaders to conduct conferences within their own plants, not to do it for them. This policy has been consistently followed.

The program has been conducted along the following lines:

To provide speakers for meetings of employers associations, chambers of commerce, superintendents or foremen so as to arouse interest in foremen improvement and its development;

To train conference leaders for the industries of the state. These courses are conducted at various centers and are attended by men and women sent for training by industries with which they are connected;

To offer a follow-up service for those persons who are conducting conferences in plants of New York State. This service is carried on through group conferences and individual conferences and includes assistance to conference leaders in determining the particular needs of the plants;

To establish foremen-training classes in evening schools of the state, the classes to be organized for the benefit of foremen employed in small plants where it is not practical to conduct foremen conferences. The instructors are usually trained men who are conducting foremen conferences in large industrial establishments.

Under the guidance of a full-time conference leader a total of 75 foremen conference leaders from 69 industries employing 64,000 workers were trained in conducting conferences during the fiscal year 1926. The next year saw a total of 78 groups with 1112 foremen receiving instruction in the work. In 1928, 123 conferences were conducted, 169 conference leaders trained and 67 industrial establishments were engaged to carry on this work.

During the past fiscal year, the work was reorganized into the Industrial Service Bureau and Mr. G. S. Maclay was engaged as a full-time supervisor. The record for that year shows 105 conference leaders trained in 6 group meetings; 87 monthly meetings with conference leaders in 12 cities; 186 meetings with plant executives in 29 cities and 48 companies in 18 cities conducting foremen conferences in their plants.

Foremen's Conferences at DeLaval Separator Company Result in Plant Savings

George J. Willson

Asst. Supt. DeLaval Separator Co., Poughkeepsie

Greater interest in the job, greater ease in launching new ideas, greater friendliness and cooperation between department heads, a better realization by foremen of the value of knowledge in discussing conference topics, and a clearer conception of their obligation to train the men under them are some of the gains which have resulted from foremen conferences as conducted by the DeLaval Separator Company in their Poughkeepsie, N. Y. branch.

An advisory committee and a steering committee constitute the machinery for Foreman Conferences, the first group consisting of the plant manager, the superintendent and assistant superintendent; the second being composed of the assistant superintendent, the cost accountant, the chief of time study, personnel director and a departmental head.

The advisory committee holds no regular meetings but discusses occasionally the general plan to be followed and suggests subjects to be discussed. These subjects are the result of problems arising in the conduct of the business or management problems.

Many phases of shop management and shop problems have been discussed at the conferences. While the results obtained are often difficult of measurement at least one conference resulted in a dollars and cents saving of $300 a month. This figure represents a saving in the operation of the plant cafeteria, a service which was formerly run at a loss. Through suggestions of foremen

offered at the conferences the cafeteria is now running so as to meet expenses which is all that the company desires.

The work thus far in 1930 has been extended to include some of the public utilities in the State and the electrical workers union in New York City. Another and earlier development has been the creation of an advisory committee of 7 representative industrial executives. The committee is as follows:

Strain, John D., Secretary, Industrial Assn. of Utica.
Newman, G. A., Secretary, Manufacturers Assn., Syracuse.
Card, George, Secretary, Manufacturers Assn., Poughkeepsie.
Storke, C. W., Secretary, Employers Assn., Auburn.
Peake, C. L., DuPont Rayon Co., Buffalo.
Jordan, A. C., Elmira, Water, Light and R. R. Co., Elmira.
Starr, R. T., Columbian Rope Co., Auburn.

OREGON

Smith-Hughes Work in Coos County Bears Good Will of Many Groups

An organization new to Oregon and probably the only one of its kind in the United States was organized at Coquille early in April, known as the Coos County Smith-Hughes Agricultural association. Its purpose is to provide better cooperation among Smith-Hughes departments in the county, and its membership includes Smith-Hughes instructors, superintendents of schools, a representative of each school board and each chamber of commerce, five representative farmers from each Smith-Hughes district, and the officers of the Future Farmers of America, an organization of Smith-Hughes agricultural students.

This association takes in the four Smith-Hughes departments of Coos County, namely Coos River, Myrtle Point, Coquille and Bandon. This is the only county in Oregon that has four Smith-Hughes agricultural departments.

W. M. Cunning, Smith-Hughes instructor at Coquille, was elected president and Jens F. Svinth, Smith-Hughes instructor at Bandon, secretary.

Future Farmers Compete At Eastern Oregon Livestock Show

The Eastern Oregon Livestock show, June 12-14, 1930, is offering $500 in cash premiums for Smith-Hughes agricultural projects exhibits this year. There will be over three carloads of livestock shipped from the Smith-Hughes agricultural departments of Enterprise, Wallowa, Imbler, Union and Ontario high schools, which will compete for this premium money. The project records are to accompany and form a part of the exhibit, both being used as a basis for awards. A number of vocational contests will be held in which Future Farmers will compete for special prizes. Contests in leather work, soldering, blacksmithing, rope work, rafter cutting, milk testing, concrete work, making dairy rations, hog calling and estimating weight of animals are outlined.

Another interesting feature of the show this year will be the F. F. A. meeting, where all the Future Farmers of Eastern Oregon get together for a regular meeting and a good time. A camp will be maintained for the F. F. A. boys while they are at the show.

Home Economics State Conference

The vocational home economics teachers held their annual state conference in Corvallis during the week June 3 to 7. Mrs. Merle Davis, teacher trainer at Oregon State college, and Miss Frances M. Wright, state supervisor of home economics education, were the conference leaders. The professional interest of Oregon home economics education, were the conference leaders. The professional interest of Oregon home economics teachers was indicated by a 100 per cent attendance of the vocational group and the presence of a considerable number of non-vocational teachers for part or all of the conference.

As the choice and arrangement of equipment for the home economics department was a subject which the group wished to consider, a trip was made to St. Helens and Sandy, two vocational departments which have recently purchased new equipment. The cooperation of these districts in furnishing school busses to transport the group minimized the expense and added to the spirit of the trip.

Among the subjects discussed at the conference were Methods of Teaching Child Development, Laboratory Management Problems, Methods of Teaching Family and Social Relationships, Home Projects, The Home Economics Club, Publicity, Wright and Allen's Factors for Evaluating a Vocational Program, and A Program of Work for Home Economics Departments for 1930-31.

A collection of more than 50 pictures showing the work carried on by high school home economics departments all over the state was used as a basis for many of the discussions. By the use of these, it was possible to make comparisons as to equipment, to gain ideas as to projects in various phases of home economics, and to draw conclusions as to types of pictures which are of the most value for publicity for the department.

Annual Meeting of Oregon Association of Future Farmers

The eighth annual meeting of the Oregon Association of Future Farmers of America was held at the Oregon State College during Smith-Hughes week-end, April 24 to 26. Twenty-three of the 34 high schools in the state were represented. Over 300 Future Farmers were in attendance—the largest delegation of Smith-Hughes agricultural students ever present at the college.

The awarding of the "Oregon Farmer" degree to the ten outstanding Future Farmers in the state was one of the big features of the meeting. The boys were selected on the basis of their supervised practice, scholarship, leadership and their school activities.

All the schools had representatives in the vocational contests which consisted of poultry judging, egg grading, livestock weight judging, dairy cow evaluation, milk testing, judging farm crops, grafting and budding, tool identification, rafter cutting, soldering, forging, rope work and tool sharpening.

On the evening of Friday, April 25, there was held a banquet for the benefit of the Future Farmers and instructors, the program of which was broadcast over KOAC. At this banquet, the various ribbons and trophies were awarded to the winners of the contests, the winner in the public speaking contest was announced, and the "Oregon Farmer" degrees were announced and the keys awarded.

The annual agricultural state conference will be held at Forest Grove, Oregon, during the week of August 11, 1930. Mr. W. T. Spanton, regional agent for agricultural education, will take part in the conference. Other representatives will be George W. Barr, former supervisor of New Mexico, and O. I Paulson, former supervisor of Oregon.

A farm shop building, 26x60 feet, has been constructed by the Smith-Hughes agricultural department of Redmond, according to B. F. Beck, the agricultural instructor. It has a concrete foundation and most of the lumber has been salvaged from an old grade school building. Beck says the construction of this building was a big undertaking but well worth the effort.

Mr. O. I. Paulson, agriculturist of the Union Pacific system, has recently been appointed a member of the national agricultural research committee of the American Vocational Education, by Paul Chapamn.

The Future Farmers of Corvallis put on the Green Hand degree at their regular semi-monthly meeting. W. S. Spanton, regional agent, and H. B. Swanson, a member of the staff of the Federal Board, attended the meeting.

Ronald Burnett, agricultural instructor at Woodburn, reports that the Donald Tile Company is giving one boy enough tile to drain one acre of land as a project demonstration.

PENNSYLVANIA

Home Economics in Pennsylvania

The Annual Conference for supervisors, teachers and teacher trainers of home economics in Pennsylvania will be held in Eagles Mere Park, June 26th, 27th and 28th. The central theme of the conference is "Planning Your Home Economics Program on Health and Management". The topics around which discussions will center are (1) the George-Reed plan of organizing vocational home economics courses and the relationship of home projects to this program, (2) serving the needs of the wage-earning girl, (3) what home visits reveal, (4) health through right food and right living habits, child training, personal and family relationships, (5) management through living within your means, division of work, determining essentials, and (6) measuring your results through home practice, home projects, and activities of pupils after leaving school, and through exhibits and demonstrations.

Mrs. Edith D. Davison, Assistant Director of Home Economics Education in the State Department of Public Instruction, is taking advantage of the three-weeks' intersession course at Columbia University where she is devoting an intensive period of study to curriculum construction in home economics.

Grace Godfrey, Director of Home Economics in Drexel Institute, and two members of her staff, Amanda Ebersole and Ardenia Chapman, are planning to spend the summer abroad.

Mabel Trilling, Director of Home Economics Teacher Training at Carnegie Institute of Technology, is planning to spend the summer at the Oregon State College in Corvallis where she will serve as a member of the home economics faculty and in addition will devote some time to a study involving the business organization of the home.

Industrial Education in Williamsport

The School District of the City of Williamsport operates under the 6-3-3 plan. There are three junior high schools with exploratory industrial arts activities as a required subject in each.

In these Junior High Schools, there are four unit shops and five general shops. The exploratory work is restricted to the seven trade groups represented in the Senior High School unit trade courses. In the Senior High School the unit trade and cooperative courses are combined, the unit trade courses acting as a reservoir for the cooperative course. The boys are admitted to the cooperative course regardless of school grade, but they must be sixteen years of age and must have reached a predetermined proficiency in the unit trade course.

Future Farmers of America

The Keystone Branch of the Future Farmers of American was organized at the Annual Vocational Conference in June 1929. Since that time forty-two chapters have been organized by the vocational boys of the state with a total present membership of seven hundred fifty-three. Several additional vocational schools and departments are planning to organize chapters during the summer and fall. At the first state meeting of delegates from the new chapters held in Harrisburg during the State Farm Products Show last January, officers for the year were selected, a program of major activities was adopted and the Keystone Degree was conferred upon fifteen outstanding vocational boys.

The second annual conference of the Keystone Branch of Future Farmers of America will be held at State College during the week of August 18th and will be known as Future Farmers Week. It is expected that over eight hundred vocational boys will attend this session.

During the week the annual state dairy, poultry, swine and livestock judging contests will be held from which the winners are selected to represent Pennsylvania at the National Dairy Show and the American Royal Livestock Show. A program of instruction in the various branches of judging, a series of F. F. A. business meetings and numerous special activities have been planned for the week.

A special feature of Future Farmers Week will be the F. F. A. Public Speaking Contest. Every local chapter of the Keystone Branch is permitted to enter a representative in this Contest. The winner in the State Contest will go to Springfield Massachusetts to compete in a National Contest which will be held in September. The winners in the Regional Contests will compete in the National Contest at Kansas City in November.

The College is making special arrangements for the accommodation of all vocational boys and their supervisors. Six buildings including two new dormitories will be used for this purpose and will assure every boy and teacher comfortable lodging.

Erie Conducts Special Graduation Exercises for Industrial Graduates

The Educational Committee of the Erie Chamber of Commerce, in cooperation with the Erie School District, have succeeded in developing industrial education to such an extent that the schools are now offering ten Smith-Hughes unit trade courses and the number of students enrolled has increased to such an extent that a separate trade school unit has been organized as a department of the Senior High School. The number of graduates from these courses has continued to increase until, at present, it is necessary to conduct a special graduation exercise for the trade school graduates.

The Youngest Member of the Educational Fraternity

The educational system is one of evolution. The senior high school, which is now deemed indispensible, was accepted only after strenuous contest. The junior high school is standing the storm which even today beats against it. These storms usually originate with the old style schoolmen. Persons who have been drilled in the formal school of bygone days are not apt to accept the new doctrine. In this process of evolution, the Vocational Industrial School has also been given a place of prominence in the types of schools generally believed to be necessary. The next logical step in the progress was the recognition of the rights possessed by the working child and the provision of opportunities for his further development. This has been an important development in the educational field within the past fifteen years.

Like every member in the educational fraternity, the Continuation School has had to fight its way and has become stronger through the struggle for its existence. Vocational Education, particularly the Continuation School phase has had its peculiar problems to solve.

Every new scheme of education has had its own distinctive purpose. With the establishment of the Continuation Schools, the desire has been to give the working minor an opportunity to adjust himself as a thrifty, productive, useful citizen of good character and ideals as accepted in the society of which he is a member.

In Pennsylvania, this last school term, we had one hundred and eight (108) Continuation Schools in operation with approximately forty-five thousand (45,000) students enrolled, earning approximately eleven million dollars ($11,000,000.00) a year. In these schools the problems that the administrators have had to contend with are similar to those of the pioneer. He has had to blaze the trail and open the way in the solution of the peculiar problems of continuation education. It was apparent that the old method of mass instruction could not obtain nor was the newer plan of group teaching applicable for the reason that the class register is in continual change. Because pupils were to enter school when they received their employment certificate and to be discharged when they were sixteen years of age the turnover was of unprecedented magnitude. Hence was necessarily evolved the individual instruction method.

This constituted the tasks connected

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BOOK REVIEWS

TEACHING PROBLEMS IN HOME ECONOMICS, by Treva E. Kauffman. Lippincott, 1930. IX—176.

This handbook considers a series of ten subjects dealing with home economics including good clothing, house furnishings, child care, entertaining, home life, the dining room and management. The instructional material is well organized, clearly presented and illustrated in interesting fashion. The author, as state supervisor of home economics education, New York State Education Department, has had wide experience in this field, both in teaching and supervising. The book should prove helpful to teachers and administrators in Home Economics and to pupils preparing to enter this field of teaching.

HAND BOOK FOR THE AUTO MECHANIC

A new Auto Mechanic's Hand Book No. 33, sixth printing, has just been published by the South Bend Lathe Works, South Bend, Indiana. This 32-page 6 inch by 9 inch booklet, in two colors, fully explains how a back-geared screw-cutting precision lathe may be used to advantage on many servicing jobs that come up in repair shops, service shops, garages, etc.

Fully illustrated sections describe how to service brake drums, make drive axle shafts, finish pistons, reface valves, true armature commutators, undercut mica insulation, and many other jobs which are practical for the lathe.

Information for owners of service stations, repair shops, garages, etc., regarding the size and type of lathe to use for the kinds of work to be done is included in this practical Hand Book.

Other interesting sections describe popular lathes such as 9-inch, 13-inch, 16-inch, 18-inch and the new 16-24-inch special design general purpose lathe which is built to swing work up to 24 inches over the bed and 17 inches over the sadle, making it very desirable because it takes care of a great deal of light work of general character that would otherwise require a large and expensive machine.

It is stated from the factory that a free copy of Auto Mechanic's Hand Book No. 33 will be mailed post-paid to anyone who writes for it.

A BOOK FOR STUDENTS IN FRUIT GROWING, by William Anderson Broyles. April 23, 1930. $2.00. Vocational Agriculture. The Century Vocational Series.

This unique book for courses in fruit-growing is built entirely upon purposeful student activity. Instead of giving direct information, it tells the student how and where to find out what he must know, and how to apply the knowledge he acquires.

The book contains sixteen sections, each of which provides from one to fifteen work-sheets covering a wide variety of fruit-growing jobs or projects. Each work-sheet explains fully what job is to be done; then presents a number of questions to which the student must find the answers either through reading the references cited on the work-sheet, through information gathered by the student in his own neighborhood, or through the student's own observation and experimentation; and finally gives a number of suggestive questions intended to help the student to think intelligently about the job assigned. Test sheets are provided at frequent intervals to check the student's progress.

The work-sheets are arranged so that the student can write in the answers to the questions and make a record of his work. Each of the work-sheets is illustrated, and many are provided with outlines to be filled in by the student.

William Anderson Broyles is professor of agricultural education at the Pennsylvania State College. He is a graduate of the Tri State College in Indiana and of Indiana University. He studied also at the graduate schools of the University of Wisconsin and the University of Illinois, receiving his doctor's degree from the latter institution. He has had a broad experience as principal of the Consolidated Schools at Gaston, Indiana, and as instructor (for three years) in the State Normal and Industrial School at Ellendale, North Dakota. Dr. Broyles has been a member of the faculty of Pennsylvania State College since 1920. He has travelled extensively over the United States, and is the founder of the Country School at Park River, North Dakota, a distinctive rural-life school.

CIVICS AND INDUSTRY, by Dewitt C. Morgan and Ora S. Flick. McGraw-Hill Book Co. $2.50.

More and more we are coming to realize that a knowledge of those common things which surround us in every day life are more important than the so-called arts and sciences.

In this text the authors have given a comprehensive and interesting picture of life as it works out in the United States. In a sense, the book is an elementary text in economics.

In general the book offers information for the worker rather than the professional group. It is well organized and could be used to advantage in any high school.—G. K. W.

INDUSTRIAL HYGIENE FOR SCHOOLS, by Jessie F. Williams and Delbert Oberteuffer. McGraw-Hill Book Co. $2.50

This interesting book will be of excellent service in teaching health in schools. It is well written and covers very completely the common things which help to maintain healthful conditions. Foods, exercise, industrial hazards, accident prevention, home sanitation, and other worth while information is taken up.

Teachers looking for a text for courses in Hygiene and Sanitation will do well to consider this book before making a selection.—G. K. W.

PRINCIPLES OF WOODWORKING, by Herman Hjorth. Bruce Publishing Co.

Mr. Hjorth, who has written many articles about woodworking, has combined in this text nearly all of the fundamental knowledge needed in a high school class in Cabinet and Furniture Making. The book describes the tools, both hand and machine, the common operations in the shaping of the wood, including turning, the methods of upholstering and finishing. It is an excellent text for high school and trade school woodwork.—G. K.W.

PROBLEMS IN ARCHITECTURAL DRAWING BOOK II, by Franklin G. Elwood. The Manual Arts Press. $2.00.

This new text on Architectural Drawing is intended to supplement Problems in Architectural Drawing Book I and deals largely with fundamental principle of masonry and steel construction. Mr. Elwood has selected practical constructive problems and has left out most of the theoretical formulae which involve higher mathematics. The book is well illustrated with architectural details and sufficient explanations have been made so that the student may apply the principle to other construction.

A number of tables used in such construction are included in the book.—G. K. W.

TRADE TRAINING IN SCHOOL AND PLANT, by Herman S. Hall. The Century Company. $3.00.

We have had many books written by teachers who have gotten into the vocational field. We are to find a mechanic who has become a teacher writing a book about how to teach in the vocational field. Primarily the book is to help the trade and industrial teacher, but its principle could be applied in other fields of vocational education.

The author has covered in an excellent manner the psychological principles, methods, forms, and systems that apply to trade training. The self analysis charts are excellent and would be a help to any teacher. This is an excellent text for a teacher training class or to be used by instructors to assist them in improving their instruction. G. K. W.

SYLLABUS FOR A FIRST COURSE IN VOCATIONAL EDUCATION, by G. C. Mann, M. A—McGraw-Hill Book Co. $1.50.

The need for careful organization of teaching material in the training of prospective teachers of vocational education has lead to the issuing of this syllabus on vocational education. We are very much gratified to find that the author starts his students out in the same way as we did when teaching such a course. He takes up the historical side and brings the student gradually up to the study of the present situation.

The work is carefully organized into thirty assignments with questions and problems at the end of each assignment. The use of the true-false statements in such a manner is new to us but seems to be a desirable method of causing the student to think through what he has read. The syllabus is planned for use with the text by Lee, "Objectives and Problems of Vocational Education."—G. K. W.

SOCIAL SCIENCE LESSONS FOR JUNIOR WORKERS, by Clarence P. Davey and James Cameron. The Century Co. 76c.

This set of lessons is the result of four years of work in the Boys Vocational School of Detroit. It has been tried out on seven thousand students.

The outstanding point to us as we read it is that the lessons relate to the actual life experiences that these students will meet in industry. Such topics as "The Working Day," "Getting a Job," "Factors of Promotion," "The Family Living Wage," "Police Protection," and "Specialization" appeal to us as very practical.

Each lesson is represented on two facing pages. On the left-hand pages are the introductions for the lessons, with suggested references; and on the right-hand pages are the questions, problems and outlines.

The lessons are grouped in other sections. The first section is devoted to fundamental problems and relationships involved in earning a living; the second section to problems and relationships of community life; and the third section to economic problems and relationships. G. K. W.

AVIATION ENGINES, by Ray F. Kuns, American Technical Society. $2.00.

This book is designed for ground mechanics who have had preliminary training in automobile engines. It is an up to date treatment of air craft engine design. Those who are acquainted with the former texts by Mr. Kuns will recognize in this book the lucid and accurate writing of the author. Numerous illustrations of various engines and parts throughout the book make it a very meaningful text. Practically all types of aeroplane engines are covered.—*Ammon Swope.*

PROJECTS IN BUSINESS SCIENCE, by L. L. Jones and Lloys Bertschi, Parts I and II. Gregg Publishing Company.

A study manual designed on the project plan to accompany General Business Science by the same authors. The projects are adapted to the junior business training field and give practice in the ordinary procedures found in commercial work.—*Ammon Swope.*

FOUNDRY WORK, by W. C. Stimpson, B. L. Gray, and John Grennan. American Technical Society.

A new text in Foundry work taking into account modern methods of foundry practice including hand and machine moulding, casting operations, melting and pouring equipment and metallurgy of cast metals. The authors have designed their book with the purpose of making available with a minimum of theory the best practices in foundry operation. It contains actual photographs of important processes as well as good diagrams of equipment and principles of operation.—*Ammon Swope.*

PRACTICAL MATHEMATICS, by J. C. Palmer. McGraw-Hill Book Company. $1.20.

A reprint arrangement of a well known book on the subject. The text contains essentials of Arithmetic, Algebra, Geometry and Trigonometry for the practical worker. The fundamentals are presented in their application to mechanical problems. The book contains numerous exercises as well as extensive tables such as decimal and fractional equivalents, specific gravities and square root. Numerous illustrations are given to clarify the explanations such as trigonometric relations, laws, tables, diagram of the micrometer and vernier calipers.—*Ammon Swope.*

Keeping Project Records

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steps immediately to check up on the completeness and accuracy of project records by making a systematic statewide survey and analysis of the record books being kept by the vocational agriculture students of their respective States.

Such surveys and analysis may in my opinion be effectively made by any one or more of the following three suggested methods:

(a) By the State Supervisor or Itinerant Teacher Trainer while on the job in the field. In the case of schools with large enrollments and limited time on the part of the Supervisor or Teacher Trainer very effective work can be done by deciding on two or three of the more common enterprises and then sampling every second, third or fourth completed record book for that particular enterprise, depending on the enrollment in the school and time available. However, so far as time of the Supervisor or Teacher Trainer is concerned, it is my personal opinion that until the quality of our project records and accounts has been improved at least *200* per cent, we cannot spend our time more effectively or to better advantage than on this type of work, even if it becomes necessary for the time-being to give a little less attention to classroom practices, lesson plans, inspection of equipment, library facilities, etc.

(b) By having all completed project record books sent to the office of the Resident Teacher Trainer for analysis and efficiency studies by students in the Teacher-training Department under the guidance of the Teacher Trainer. Such studies can no doubt be most effectively performed by graduate students. When this practice is followed in a State it serves two purposes; first, the results of such studies can be used to show the mistakes being made by teachers in service and suggestions for improvement can be offered; second, the mere process of making the study and analyzing the records will, if properly directed, have immense training value to the trainees in the Teacher Training Department.

(c) By securing the cooperation of specialists in the Departments of Farm Management in our Colleges of Agriculture and Agricultural Experiment Stations. In many cases these men will be glad to cooperate with us in this enterprise and in some cases these

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Eighty-eight Forty-three or Bust an Oar!

The Ship calls off a vacation for a long journey

August . . . a faint ripple on the green waters of the sheltered cove. For weeks the Ship has been lying at anchor and at rest. But today the dories have been plying out from the gold coast with new treasures.

The Crew, tanned from two months on the beach, look like hardened buccaneers as they labor aboard with labeled ditty bags and trade-marked bundles.

Sails, close reefed, are fluttering down from the yards. Brass shines, the oak deck is pale from much swabbing. Glorious red paint glistens from water line to gunwales.

Instead of vacation peace, why are these decks teeming with feverish activity. Why is the old craft about to lift anchor?

Here is the story. The first watch, sitting in the crow's nest, spied a flag flutter from a red brick building on the hilltop. On closer view thru the glass, the watch saw women washing the windows, and inside a tall man in a jumper was wiping cosmolene from planes, chisels and saws, while his helper was sorting culls from the lumber rack and tossing caked paint cans into the waste box.

Like a flash this word, called down from the crow's nest, electrified the Ship, brought the Crew rumbling from their bunks.

So it is on again, the vocational program for 1930-1931. Let's hoist anchor and be about our business, feeling the wind tugging in our masts. And what is planned, what says that yellow scroll, the Ship's Log?

"When the winds off Hatteras are favorable, move off. Tack for 87° 50‡ West, 43° 4‡ North, on the shores of a lake called Michigan."

What a trip! It will mean the open sea, the broad Atlantic to the St. Lawrence, the rapids, the lakes of Ontario, Erie, Huron. Then rounding Mackinaw the waves of Michigan will begin to pelt our stem as we bob sou'west toward the blinking lights of Milwaukee. Only a few lines on the map but some trick of navigatin', me hearties!

The Ship dips her colors to the newly incorporated A. V. A. It also recognizes in Paul Chapman a leader as feerless as a Crusader and as far-sighted as a Jefferson. "Onward A. V. A." is his watchword and onward it shall be.

Past-president R. L. Cooley is having the Milwaukee harbor dredged for the Ship's new keel. This work has resulted in the establishment of a course in marine engineering in the Vocational School.

Those who want to go to Chicago as a side trip are urged to consult First-Class Passenger Wm. J. Bogan, who, some of you may know, is also superintendent of Chicago schools. W. J. B. says we have the only craft that doesn't make him the worse for mal de mer. If you want to go to Chicago the worst way, try Phillip's boat.

First Mate Ralph Newing has been in touch with Amos and Andy. It seems that the Mystic Knights of the Sea are willing to be present at our

meetin'. They want instruction in automechanics for Amos and home economics for Andy. To have them actually on our program would strip the Ship of her copper hull and her treasure chest of more luchre than her shallow coffer could cough. Ah, hum, 'tis too bad, it is. But there will be plenty of Ship entertainment, the kind that makes Friday afternoon a high spot on the A. V. A. program.

Radio has made progress and in keeping our Radio Officer is now none other than George Farnham himself, quite an antenna in McGraw-Hill. You will hear him, clear as a sonora. Failure of a tonsil may require technical and medical bolstering from the second mate. Der Zweite Mate, dear people, lives from habit in Milwaukee under the Industrial and Vocational eaves, und heiss Johannes Claude, Junior, und so weiter.'

And speaking of Texas, Fred Goss is Helmsman of the Steering Committee. Some helm, some don't. At great expense and with risk of limb and twigs, Fred will come across country, straight as a strawed horsefly,—in a Stanley plane.

Inspirational, isn't it, the way that fair talent steps to our elbow at the A. V. A. dances. About two o'clock Thursday afternoon, everyone says to his neighbor, "I don't see how there can be enough girls anyway." Before the evening closes, everyone is saying, "Did you ever see so many attractive girls before?" Milwaukee, hub of dairies, promises many attractions. Many a peace offering will be added to home bound baggage at the North-Western depot, just as the pralines filtered homeward from New Orleans. Say, who brought up that subject anyway?

Henry Ford recently said, "Anyone can walk right thru the boundaries we ordinarily believe are our limitations." That packs food for thought and several krinkles in the grey convolutions. But, might we add, that among the doors and windows provided for blind alleys and stone walls are the gateways of vocational education. Reasonable royalties accepted for banquet use.

The key note for Milwaukee is enthusiasm. Remember Froude's "No man is ever good for much who has not been at times carried off his feet by enthusiasm." Often one hears, "Enthusiasm is youth" but the Ship wonders if enthusiasm isn't more often injected by youthful spirits with grey temples.

So, it's on to Milwaukee, come what may, feet carried away or not, let's at least make it an enthusiastic meeting.

Come one, come all, the Ship shall sink to a watery grave ere it shall fail to hoist sail and make port with the A. V. A.

August . . . a faint ripple on the green waters. The dories ply in from the gold coast. This morning the watch saw a flag flutter from a brick building on the hilltop.

Ahoy and a fair journey.

WALDO C. WRIGHT,
Captain The Ship.

News Notes

Continued from Page 47

with the preparation of individual job instruction sheets. Still another problem was the development of a system of related work instruction.

Along with the above mentioned problems came the problem of rating the pupil, the problem of coordination, the problem of securing adequate equipment for the school, of adjustment problems of the pupils, and the very important problem of bridging the pupil from full-time school life to full-time work-a-day life so that the young worker in the community becomes a useful, contented and respected member of society making his contribution to social and industrial progress.

State Project Contest

The State Project Contest for 1929 showed considerable growth and improvement over any of the previous five annual project contests conducted in Pennsylvania. A total of 1928 projects met the minimum requirements for entrance into this contest. The books which were sent to compete in the contest at the close of the year were of considerable higher quality on an average than those of previous years. Medals and ribbons were awarded to the ten highest projects in each of thirteen contests. A contest was opened in each of the following types of projects: Poultry, Truck, Fruit, Beef, Swine, Small Grains, Dairy, Beef, Bees, Corn, Home Improvement, Potatoes, Winner's Class.

The State Project Contest has improved project programs in the state in the following ways: 1. More definite and business-like project agreements have been made between boys and their parents. 2. There has been an increased percentage of ownership. 3. Project plans have been more carefully organized and records have been more accurately kept. 4. Project scopes have been increased. 5. There has been a larger proportion of twelve month projects. This is especially true in poultry and swine projects. 6. There has been an increased number of continuation projects. Winners' Class has stimulated this somewhat. 7. Agricultural teachers and supervisors have supervised their projects more thoroughly. The project stories have been more comprehensive and interesting. 8. A larger number of community or county project shows have been organized where project products were exhibited; more father and son project banquets were held and there has been better newspaper publicity for vocational agriculture.

Subject-Matter Conference

During the week of April 21st, the Department of Public Instruction in cooperation with the various departments of State College held its second annual subject-matter conference for county supervisors of vocational agriculture at State College. As the title indicates, the conference was held for the purpose of giving the county supervisors the latest developments in each of several fields of agricultural work. Special evening conferences were held with members of the state staff at which administrative problems were discussed.

The county supervisors were so well pleased with the conferences this year that they unanimously requested a similar conference next year. Each county supervisor listed the subjects in which he desires instruction at the next conference.

A similar conference has been planned for the local supervisors of agriculture during Future Farmers Week in August. At this time, the county supervisors will take charge of the vocational boys in order to make it possible for the local supervisors to attend the special instruction classes.

State Vocational Conference

The eighteenth annual conference of supervisors of vocational agriculture will be held at Eagles Mere on June 26th, 27th and 28th, as a part of a joint vocational conference in which all vocational forces of the state will participate. The program for the agricultural group of about one hundred fifty men has been prepared to meet the immediate needs of the teachers in the field. Such topics as the revised farm mechanics course, how to plan laboratory work and field trips, strong and weak points of the State Project Contest, accomplishments and possibilities of the Future Farmers of America and participation in the State Farm Products Show are on the program and will be discussed for the most part by the teachers and supervisors themselves. It is expected that this type of program will bring forth much discussion within the group.

A spirited conclave of the Pennsylvania Vocational Kennel of Yellow Dogs is scheduled as an important feature of the Annual Conference.

Clifford B. Connelley Trade School

September 1, 1930, Pittsburgh will open the doors of the new two million dollar Clifford B. Connelley Trade School to boys who have ambitions along trade training.

The School is the result of many years of careful planning and is named for Mr. Clifford B. Connelley who has been a pioneer in vocational education in Pittsburgh.

For the past seventeen years Pittsburgh has been building up its vocational program until at present it has six centers with 2500 boys and girls enrolled in the all day unit trade classes and 425 students in the cooperative part-time classes.

The new school will accommodate 1600 boys and offer fifteen different trade courses.

Mr. Loren H. Turner has recently been appointed Principal of the Connelley School and under his leadership Pennsylvania is looking forward to a continued higher standard for vocational education in Pittsburgh.

Milton S. Hershey Makes Big Donation to New High School

An unusually large audience attended the Dedicatory Exercises held in the Hershey High School, June fourth, when the new unit of the building was formally opened and, at the present time, the equipment of the various unit shops was formally presented to the Board of Directors by the donor, Milton S. Hershey. The new unit is to be known as the Hershey Industrial Education Unit. The gift is one of exceptional value and interest to the citizens of the community.

The Machine Shop alone has equipment with a minimum cost of thirty thousand dollars ($30,000). The machinery is equivalent to the best shops found in industry. The students will receive instruction, in the various departments, of such a nature that they will enable them to carry on, in industry, with a more intelligent appreciation of the part they must assume in life's activities.

Part of the plan of training in the Woodworking, Electrical, Plumbing and Drafting Departments will be to go out of the school plant and actually build a house, from foundation to roof. This, in itself, is a most commendable feature of the program. Mr. Markley, the head of the Vocational Department, has served with the district the past year and has organized the vocational industrial program. He is a graduate machinist and has had considerable experience in industry.

Additional equipment is being installed as the enrollment of the school increases and within another year we bespeak of this school as having one of the best equipped Vocational Departments of Central Pennsylvania.

NEVADA

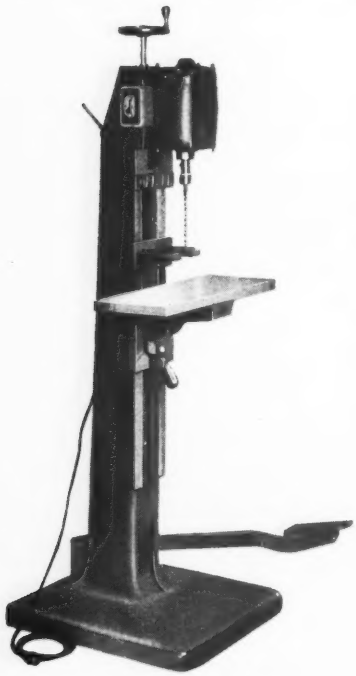
State Director, Walter W. Anderson, and State Supervisors Ruth A. Talboy, R. B. Jeppson and E. W. Durfee, attended the Pacific Regional Conference at Phoenix, Arizona.

Miss Ruth A. Talboy, State Supervisor of Home Economics Education has received a scholarship in Child Study and Parent Education and is attending the summer session at the University of Iowa.

Mr. R. B. Jeppson, State Supervisor of Agricultural Education, is taking special work at the College of Agriculture at Davis, California.

Continued on Page 53

NEWS FROM THE TRADE



New Single Spindle Borer Is Announced

The Oliver Machinery Co., Grand Rapids, Mich., announces a new addition to the "Oliver" line of portable wood-working machinery; the "Oliver" No. 194-B Portable Motor-in-Head Vertical Single Spindle Borer, illustrated above.

This new machine bores holes up to ¾" in hardwood and to 1½" diameter in soft woods, 4" deep, in the edge of 22" wide board with table in use and without table in edge of board or door 36" wide. It bores to center of pieces 8" wide.

It is fitted with plain wooden top table having vertical adjustment of 22", one ½" boring bit, and with ½ H. P. Vertical Ball Bearing Motor. The hold-down is instantly adjustable to desired position being mounted on a saddle which runs on ways of column.

The treadle, spring and pull-rod are so arranged that the maximum fulcrum power is obtained making treadle operation so light that a woman or boy can operate this machine easily. The advantage of this type is its lightness. There is less inertia to overcome.

This machine will operate from a light socket; it is fast and simple; takes but 24x28 inches floor space and is easily moved wherever desired.

Gregg Publishing Co. In Larger Quarters

Offices at 270 Madison Ave. More Centrally Located

The Gregg Publishing Company announces the removal of its offices to new, larger and more centrally located quarters, at 270 Madison Ave., at 39th St. Manhattan. Besides the branch office, which serves the Eastern States, the editorial offices and the general administrative offices of the company, as well as the publication offices of the magazines, the Gregg Writer, the American Shorthand Teacher and El Taquigrafo Gregg, are all housed on one tremendous floor.

It is a magnificently furnished suite of offices, acting as the new home for Gregg Shorthand and its many activities, and as a testimonial to the efforts of John R. Gregg, the author of the system bearing his name and president of the company, who has given his best in inspiration and tireless labor. The administrative offices are of panelled walnut and furnished in Jacobean style by Flint Horner. The spacious reception hall with its walnut panelling, its beamed ceiling and polished oak floor, its easy-cushioned couches, large and comfortable leather chairs, its large and small tables, its floor, table and side lights, creates an atmosphere of restful dignity and is in perfect good taste. Here any number of conferences may be held at one time without undue crowding and under ideal conditions.

The editorial offices, housing the largest private library of shorthand books in the world, is furnished throughout in mahogany, is light and airy, and working conditions are as nearly ideal as modern efficiency can conceive.

Teachers, principals, superintendents of schools and all those interested in Commercial Education are invited to visit and make these offices their headquarters while in New York.

Typographic Contest

A typographic contest, with the unique feature of including a photograph of the locked-up form, has just been concluded by the Worcester Club of Printing House Craftsmen, of Worcester, Massachusetts.

The specifications were as follows:

TYPOGRAPHIC CONTEST FOR PRINTING APPRENTICES

Conducted by the

WORCESTER CLUB OF PRINTING HOUSE CRAFTSMEN

Open to recognized apprentices in printing plants and students in printing schools throughout the United States and Canada.

SPECIFICATIONS

1. Set up a letterhead for the Worcester Club of Printing House Craftsmen. The copy must be as follows: The Worcester Club of Printing House Craftsmen, Worcester, Massachusetts. The officers: Henry P. O'Connor, President; Charles W. Kellog, Vice President; George Hunter, Secretary-Treasurer. The Board of Governors: Daniel Griffin, George Hunter, Elmer Johnson, Carl Kallstrom, Charles Kellog, Henry O'Connor, Joseph O'Leary, Eignar Ringquist, Raymond Rosseel, William Wood. Use the emblem and motto, "Share Your Knowledge." (Extra copies may be secured from the Worcester Club of Printing House Craftsmen, or taken from the copy printed in the various trade papers.)

To be printed in one or more colors.

To be printed on sheet 8½x 11 inches of suitable stock.

Each contestant may use his own judgment in the choice of type faces, ornamentation, and general arrangement.

The following standards will be observed in judging the contest:

a. Proper workmanship, as indicated by either a photograph or a good clear snapshot of form or forms.
b. Fitness to purpose.
c. Conformity to principles of design.
d. Excellence of typographic display.
e. Suitability of stock.

The five winners, in order of precedence are: No. 75, Edward Hadack, Vocational School, Milwaukee, Wis.;

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News from the Trade

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No. 26, J. W. Ladd, Carnegie Institute of Technology, Pittsburgh, Pa.; No. 74, Edmund Korek, Vocational School, Milwaukee, Wis.; No. 43, Charles Simonowsky, Lakeside Press, Chicago, Ill.; and No. 42, Herbert Pearson, Lakeside Press Training School, Chicago, Illinois.

Eighty-five entries were received, practically all of them from students in schools where printing instruction is furnished. Few entries were received from regular trade apprentices, although all trade apprentices were eligible. The prizes to be awarded are:

First Place: Ten dollars in gold.

Second Place: Standard composing stick of stainless steel.

Third Place: One year's subscription to a leading printing trade magazine.

Fourth Place: One copy of "The Student's History of Printing," by M. W. Haynes.

Fifth Place: Honorable mention.

The following well-known persons, interested in education and particularly in the training of printing apprentices, acted as judges of the contest: Howard A. Campion, Principal, Frank Wiggins Trade School, Los Angeles, Cal.; Ralph W. Polk, Supervisor of Printing in Public Schools, Detroit, Mich.; Frank K. Phillips, Manager of Education Department, American Type Founders Company, Jersey City, N. J.; Charles W. Kellogg, Head of the Printing Department of the David Hale Fanning Trade School, Worcester, Massachusetts, and Vice-President of the Worcester Club of Printing House Craftsmen, was chairman of the Committee on the Typographic Contest.

Keeping Project Records

Continued from Page 49

record books might provide valuable laboratory material for graduate students in these subject matter departments.

It would be much easier for me to come before you with a glowing account of the fine results of our supervised practice programs and to present charts and graphs showing the large financial returns and labor income being "reported" throughout the country on project work, but frankly men, such figures, because of their inaccuracies, mean very little to me after my experiences during the last few years in checking over some of these completed project record books. I believe I can truthfully say that not over one or two percent of all the project plans and records that I have examined were in my opinion *entirely satisfactory* so far as accuracy and completeness are concerned, and practically none of them showed that these records had been analyzed and interpreted by the pupils. Not over ten or fifteen percent of them could be considered as reasonably satisfactory, and the balance vary all the way from poor, to a condition that I regard as a downright disgrace to our work.

In many of the newspaper articles appearing over the country we often see the financial results of home project work given a prominent place in the article, and mention made of the "carefully kept cost account records," while as a matter of fact nothing is farther from the truth in a large number of cases.

In conclusion I wish to again stress the seriousness of the situation and to urge that we all work together in helping to improve the quality of our records and accounts so far as accuracy and completeness is concerned. The men who follow me on this program will, I am sure, give many helpful suggestions in helping to solve this difficult, but very important, problem.

Fitting Tools

Continued from Page 26

at hand that it will set or bend over only about half of the tooth, as shown in Fig. 6. For this operation, the saw may be removed from the clamp, and held under the left arm, as shown in Fig. 8, or in any other comfortable position.

News Notes

Continued from Page 51

SOUTH DAKOTA

State conferences of home economics and agriculture teachers are to be held at Lake Madison, August 25 to 27 and August 7 to 9 respectively.

An itinerant teacher for adult education in homemaking is to be hired to handle units in four centers for periods of 8 weeks each. There will be five new all-day school departments in home economics.

Continued on Page 55

Electrical Instructors Here are the Motor Parts You Have Been Looking for

$1.79 Per Kit of Parts

Operated by two dry cells

Wt. two lbs. With Pulley for Running Small Toys to Boys' Delight

Pleased schools all over North America. Complete, all parts carefully machined—wire and job sheet, ready to assemble—can be readily placed in your course. Order sample and ask for bulletin C listing projects Red-i-Kut.

KUEMPEL CO. Electrical Department C Guttenberg, Iowa

A WORK BOOK *for* STUDENTS *in* FRUIT GROWING

By

William Anderson Broyles, Ph. D.
Professor of Agricultural Education at Pennsylvania State College

This unique new work-book intended for students in fruit-growing is built entirely upon purposeful student-activity. The sixteen sections provide from one to fifteen work-sheets covering a wide variety of fruit-growing projects. Each work-sheet presents a problem which the student solves by means of a list of references, by information gathered in his own neighborhood, or by his own observation or experimentation. Illustrations emphasize the factual content of the lessons. This book is an important addition to *The Century Vocational Series*, of which Charles A. Prosser is editor.

Price **$2.00**

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2126 Prairie Avenue Chicago
353 Fourth Avenue New York

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Practical Helps for

Home Economics Educators

Consisting of Educational Samples of high grade products and lesson plan suggestions published in our

HOMEMAKERS BULLETIN

sent free to Home Economics educators. Write today and have your name entered on our "Live List" to receive these valuable aids to teaching.

HOME MAKERS EDUCATIONAL SERVICE
Gerald B. Wadsworth, *Proprietor*
2450 Grove St., Freeport, New York

William Caxton showing the first printing done in England to King Edward IV, the Queen, and Members of the Court. Reproduced from a steel engraving by F. Bromley, in the Typographic Library and Museum of the American Type Founders Company, Jersey City, N. J.

ENGLAND'S FIRST PRINTER

WILLIAM CAXTON, an English merchant, scholar and English government official, set up the first printing press in England at the Almonry at Westminster. The earliest known piece of printing done in this office was an Indulgence dated December 13, 1476. In the following year Caxton printed the "Dictes or Sayings of the Philosophers," the first book to be printed in England.

Today, Printing is still being used, even more effectually than during the Middle Ages, as a device in education. There are about 3000 public schools in the United States equipped with printing outfits. This number is being constantly increased.

Especially in the junior high school is printing valuable and economical, as it can be successfully taught an entire class without division according to sex, utilizing one school period, one equipment and one room. The mechanics of printing are interesting to both boys and girls, who readily acquire the skill necessary to produce a school paper and various types of job printing.

The Education Department of the American Type Founders Company, entirely composed of professional educators, is prepared to furnish information, technical or professional, concerning the installation of printing in the schools. Write today.

Education Department

AMERICAN TYPE FOUNDERS COMPANY

300 COMMUNIPAW AVENUE, JERSEY CITY, N. J.

PRINTED IN U.S.A.

News Notes

Continued from Page 53

Miss McArthur, teacher trainer at State College, will be on leave of absence next year to do graduate work at the University of Minnesota. Miss Delia Garrett of Havelock, Nebraska is to be the new teacher trainer at the University of South Dakota. She will also have charge of the home management house.

The T. & I. program has had a healthy expansion. Custer and Vermillion are starting courses next year in the all-day school. Sioux Falls is hiring four and Yankton two T. & I. instructors for their all-day schools.

Three new agriculture departments are being added for next year. A committee of three farm organizations, the Grange, Farm Bureau, and the Farmers' Union, is co-operating with the Supervisor in working out the new course of study in vocational agriculture in which special attention is to be given to co-operative marketing.

TEXAS

Mr. C. F. Freeman, teacher of vocational agriculture at Kerrville has been using very successfully a charcoal furnace constructed by a local tinner for heating soldering coppers. Since Mr. Freeman and his boys liked this furnace better than any means of heating soldering coppers they had used we thought it worthwhile to pass the idea to other teachers.

When Benjamin Franklin started a newspaper in Philadelphia he was warned that it would fail because, his friends told him, the field was overcrowded. There were already two newspapers in America.

When Aristotle was asked how much the educated had over the ignorant, he answered, "As much as the living over the dead".

WYOMING

Trade and Industry

A new trade and industrial day unit school was organized in Coal Mining at Kemmerer, Wyoming. This school was organized after a conference with leaders in the industry. It was the unanimous opinion of all that such a school, if properly organized, would function.

Kemmerer was very fortunate in securing as an instructor Mr. F. W. Doelz, who had had 10 years actual mining experience. The school has had a very successful first year. The course of study and all other vital problems are worked out in conference with committees from the industry. The instructor has made the work in this class as nearly as possible actual mining conditions. All the shop work has been on real mining machines and problems.

Trade and Industrial Evening classes have increased 400% during the past year. A great deal of this added interest is the result of foremanship conferences held in cooperation with the different industries.

Evening Classes in Home Making Offered in Eight Wyoming Towns

Helping the homemaker to keep pace with the changing times and meet the demands of her job is one phase of education being emphasized in Wyoming this year thru the Vocational Division of the State Department of Education. This work is an extension of the service of the public schools to the people of the community and is available in any town in Wyoming where a group of women want a class and a competent teacher can be secured. Kemmerer, Rock Springs, Sublet, Cheyenne, Casper, Wheatland, Hanna and Sheridan have profited by this opportunity this year. The classes which have been running are:

Town	Subject	No. of Classes
Casper	Cooking	2
Casper	Home Dressmaking	6
Cheyenne	Clothing—Selection and Construction	1
Cheyenne	Nutrition	1
Cheyenne	Child Care	1
Cheyenne	Home Management for Business Women	1
Hanna	Dressmaking	1
Kemmerer	Nutrition	1
Kemmerer	Cooking	1
Kemmerer	Dressmaking	2
Kemmerer	Interior Decoration	1
Rock Springs	Easy Meals for Guests	1
Rock Springs	Clothing Repair	1
Sheridan	Nutrition	1
Sublet	Sewing	3
Wheatland	Nutrition	1
	TOTAL	25

These classes though reaching 347 women and helping these homemakers with their problems are only reaching a small part of the homemakers in the state who have the same or equally important problems on which they want help.

Wyoming Plans Annual Conference of Vocational Agriculture Teachers on Committee-Conference Basis

The annual conference of teachers of Vocational Agriculture in Wyoming, which will be held July 21 to 25 inclusive, on the campus of the University of Wyoming, Laramie, Wyoming, has taken as a basis for its program the report of the 1929 committee on Con-

Continued on Page 56

"Best texts now available under this organization of job analysis—"

"Fit especially well into the present method of teaching Vocational Agriculture—"

FARM ENTERPRISE SERIES

Edited by Kary C. Davis, George Peabody College for Teachers

A series of texts, organized on the job analysis plan, which provide problems, questions and discussions, activities and data, selected and compiled especially for the use of high school students. The material in each field has been prepared by specialists and checked with the latest findings and results of experiments. Excellent illustrations accompany the directions given for the steps in each job.

FARM MANAGEMENT AND MARKETING
OVERTON-ROBERTSON

FIELD-CROP ENTERPRISES
ELEVEN SPECIALISTS

HORTICULTURE ENTERPRISES
NINE SPECIALISTS

LIVESTOCK ENTERPRISES
SEVEN SPECIALISTS

DAIRY ENTERPRISES
MCDOWELL-FIELD

IN PREPARATION

POULTRY ENTERPRISES
DICKINSON—LEWIS

SOUTHERN HORTICULTURE ENTERPRISES
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J. B. LIPPINCOTT COMPANY
1249-57 SOUTH WABASH AVENUE CHICAGO

Statement of Ownershsp, Management, Circulation, Etc., Required by the Act of Congress of August 24, 1912

Of AMERICAN VOCATIONAL ASSOCIATION "NEWS BULLETIN" published quarterly at Indianapolis, Indiana for April 1, 1930.

STATE OF INDIANA } ss.
COUNTY OF MARION }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Z. M. Smith, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the American Vocational Association "News Bulletin" and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411 Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, American Vocational Association, Room 225, State House, Indianapolis, Ind.

Editor, R. W. Gregory, Room 225, State House, Indianapolis, Ind.

Managing Editor, None.

Business Managers, Z. M. Smith, Room 225, State House, Indianapolis, Ind.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If now owned by a corporation, the names and addresses of the individual owners must be given. If owner by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

R. W. Gregory, Purdue University, Lafayette, Ind.

R. L. Cooley, Vocational Director, Milwaukee, Wis.

E. E. Sheldon, R. R. Donnelley & Sons Co., Chicago, Ill.

Chas. W. Sylvester, Vocational Director, Baltimore, Md.

Z. M. Smith, Room 225, State House, Indianapolis, Ind.

3. That the known stockholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there be none, so state).

There are no bondholders, mortgagees or other security holders.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

AMERICAN VOCATIONAL ASSOCIATION,
(*Signed*) Z. M. Smith, Secy.

Sworn to and subscribed before me this 29th day of March, 1930.

(SEAL) (*Signed*) Mary W. Merrill (Strohl)

(My commission expires 12-15, 1930.

Form 3526.—Ed. 1924.

News Notes

Continued from Page 55

ference Suggestions for another year. The committee suggestions were seven in number and briefly summarized asked for:

1. Speakers to incidate recent developments along Agricultural lines.
2. James K. Wallace to meet again with group.
3. Divide conference into three groups
   a. New men.
   b. On job in Wyoming two years or less
   c. On job in Wyoming over two years

   Have different problems for each of the three groups above.
4. Get practical farmers and ranchers to appear on program.
5. Have "Question Box" and discuss two or three problems a day
6. Have Farm Bureau President talk to check of publicity results planned at last conference
7. Visit Wyoming Hereford Ranch, Cheyenne, Wyoming.

Before going into a description of the set up for the 1930 conference, there are a few facts which should be mentioned as a means of understanding modifications of the suggestions as outlined by the committee. With a turn over of 46.4% during the 1929-30 school year and with 60% of this 46.4% coming from neighboring states together with a turn over of only 32.3% for 1930-31 indicated at present with all vacancies filled but one, and with all Wyoming 1930 trainees placed, division into two groups seemed more practical than three. It was felt that the 60% of 46.4% or 27.8% of new teachers last year should meet with the 32.3% of new men making the group about 60% of the whole. This group will be classed as new men. The other group of 40% is composed of old men who have been on the job two years or more. As will be seen below, provision is made for different problems for each of the two groups so far as is practical. No effort has been made to secure practical farmers and ranchers on the program as it was felt that we could not spare the time this year. The Question Box and discussion is provided for as indicated below. It was deemed inadvisable to ask the Farm Bureau President to appear on the program this year as the change in personnel in the office of the State Department of Education rather limited the publicity program as outlined due to the fact that releases of publicity cannot be made without some detailed knowledge of conditions which a new man could not have for a few months. The visit to the Wyoming Hereford Ranch may be taken Friday afternoon on the will of the conference group.

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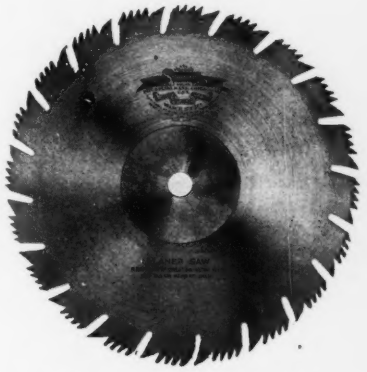
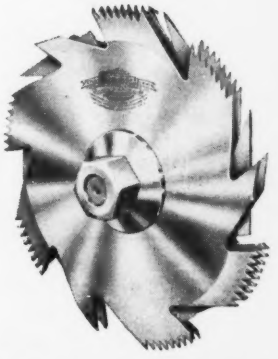
The World's Largest
Saw Manufacturer



SIMONDS
Planer Saws

The smooth cutting saw for general purposes wherever an extra smooth sawn surface is desired. These saws are for cutting-off, ripping or mitering. They are made 6 to 24 inches in diameter.



SIMONDS
Dado Head Saws

Dado Head sets consist of the two outside saws and as many inside cutters as may be required for the groove to be cut.
We suggest anyone interested ask for leaflet giving complete details.

SIMONDS SAW *and* STEEL CO.
FITCHBURG, MASS.

Eight Factories - Fifteen Branches